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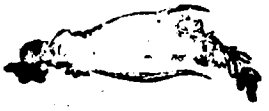
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"Quiconque a une trop haute idée de la force et de la justesse de ses raisonnemens pour se croire obligé de les soumettre a une expérience mille et mille fois répétée, ne perfectionnera jamais la physiologie du cerveau."—GALL.

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JOHN BELL, M.D.

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Old Series, Vol. 64
Jan., 1877.

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NUMBER 1.

THE PHRENOLOGICAL JOURNAL AND SCIENCE OF HEALTH



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THE PHRENOLOGICAL JOURNAL AND LIFE ILLUSTRATED.

VOL. 64. 1877.

NUMBER 1.] *January, 1877.* [WHOLE No. 457.



WILLIAM M. EVARTS,

THE LAWYER AND STATESMAN.

THIS gentleman has a large head, and it is especially large as compared with the size and weight of the body. His temperament, however, is fibrous, and contributes a high degree of sustaining power. There is not an ounce of "fat" on him;

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and made up, as he appears to be for wear, he is very strong and enduring.

If he could weigh forty pounds more, however, and had a larger proportion of the vital temperament, we think his large and active brain would be better sustained.

His organization reminds us of that of Calhoun. He was severely intellectual, cool, unimpassioned, but intense. Mr. Evarts, if we may use the term, is all brain, with little or no passion or undue impulsiveness.

The reader will observe that the head from the opening of the ear to the centre of the forehead appears to be very long and massive. The fullness across the brow indicates large perceptive organs, or the power to gather facts and practical information; and while the upper part of the forehead seems to be particularly heavy, showing a large development of the reasoning faculties, the whole forehead hangs out over the eyes: and yet the eye is located well forward of the ear. He has not only the tendency to criticise facts and things and ideas, but he has the indication of ability to read mind, to study character and disposition, and to recognize readily the mental peculiarities of strangers. He has that insight respecting men which enables him to meet them on their own ground, and understand how to influence them.

The head rises highly from the eye, upward. The anterior part of the top-head seems massive and elevated, indicating three or four faculties in a strong degree, viz.: Benevolence, or the spirit of kindness and liberality; Imitation, or the power of adapting himself to his surroundings, and gliding into the habits and usages of men; and thirdly, the faculty of Agreeableness, or the ability to make himself acceptable to others. He has also strong Spirituality and Veneration, which give faith in the higher life and reverence for whatever is sacred.

He has a good degree of Constructiveness. His Ideality is also well-developed, giving him elegant diction, a love for poetry and works of art, and things of beauty.

His Firmness is large; the head rising upward from the opening of the ear shows that. Indeed, the whole top-head is massive; Firmness being in the centre of the back-section, shows steadfastness and stability; while Conscientiousness, located on each side of Firmness, fills up the head squarely, and indicates integrity and the spirit of uprightness.

The crown of the head is pretty well elevated, indicating dignity, self-respect, desire for approval, sense of public esteem, and the disposition to relate himself to life in such a manner as to avoid suspicion and to merit respect and confidence.

The organ of Inhabitiveness seems very strongly developed in this portrait. This organ lays the foundation for patriotism or love of country. He must be fond of home, of the homestead, *per se*, and of everything that relates to old family history. His social nature gives him affection for intimate friends, but he makes his way in general among people through his intellectual and moral power. He is more fond of the "feast of reason" than he is of the feast of feeling, physical sensuousness, or of the "flowing bowl."

If his constitution had more of the vital element, more of the blood-making, enthusiastic tendency to warm up his intellectual force, and to give impulse and ardor to his character, it would be a benefit to him and to the world; but being severely intellectual, and not impulsive or carried away by his animal feelings, he is always rigidly his own master, and achieves what he does on the basis of intelligence and morality—not by bluster, noise, or a play upon the passions and emotions of men.

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One of the most eminent of living Americans by general consent is the gentleman whose name heads this article. All parties —political and social—entertain a high respect for him as a citizen, because of his fearless discharge of what he deems his duty to the community and the nation whenever called upon to take part in public measures; while his countrymen of all sections and opinions esteem him as a man for his uprightness and nobility of character.

William Maxwell Evarts was born in Boston, Massachusetts, on the sixth of February, 1818. His parentage is of the highest respectability. His father, Jeremiah Evarts, was a lawyer by profession, of finely cultivated mind, and for many years secretary of the American Board of Commissioners for Foreign Missions. William was provided with the best facilities in the way of school-training, and was sent to Yale College, where his father had been a student, and where he was graduated in 1837. In the same class were many who like him have become eminent as scholars, authors, or statesmen. Of these Mr. Samuel J. Tilden, Chief-Justice Waite, Attorney-General Pierrepont, Professors Lyman and Silliman may be mentioned. Leaving old Yale he commenced the study of law, and attended the school at Harvard for the purpose of advancing his professional studies. In 1841 he was admitted to the bar in New York city, and, in a few years, his industry and fidelity as an advocate gained a large clientage and an excellent position in the profession.

For the past fifteen years Mr. Evarts has been regarded as one of the most brilliant luminaries of the legal profession in the United States, and has been employed in the conduct of the most important causes of a national or private character. One of the most conspicuous was that of the trial of President Johnson on articles of impeachment in the spring of 1868. In this he acted as chief counsel for the defendant, and shortly after the close of the trial was appointed Attorney-General of the United States, and held that office until the close of Mr. Johnson's term.

In 1872 he was retained as one of the counsel for the United States before the Tribunal of Arbitration on the "Alabama claims" at Geneva. Perhaps the most important of his engagements as a lawyer in behalf of private individuals was that of his relation of counsel to the Rev. Henry Ward Beecher in the protracted and extraordinary litigation known as the Tilton-Beecher case of 1875.

On public occasions of moment, Mr. Evarts is one of the few men who are looked to as capable of taking the leading place and performing its duties gracefully and efficiently. Is the question for his consideration one which relates to a national measure or to a municipal interest, his opinion is asked and received with the conviction that it will embody the candid deductions of calm reflection and wide experience. At the celebration of the Centennial Anniversary of American Independence in Philadelphia, Mr. Evarts delivered the oration, from which the following extracts are taken:

"Within the hundred years whose flight in our national history we mark to-day, we have had occasion to corroborate by war both the independence and the unity of the nation. In our war against England for neutrality, we asserted and we established the absolute right to be free of European entanglements in time of war as well as in time of peace, and so completed our independence of Europe. And by the war of the Constitution—a war within the nation—the bonds of our unity were tried and tested as in a fiery furnace, and proved to be dependent upon no shifting vicissitudes of acquiescence, no partial dissents or discontents, but so far as is predicable of human fortune, irrevocable, indestructible, perpetual.

* * * * *

"The past and the present are the only means by which man foresees or shapes the future. Upon the evidence of the past, in the contemplation of the present of this people, our statesmen were willing to commence a system which must continually draw, for its sustenance and growth, upon the virtues and vigor of the people. From this virtue and this vigor it can alone be nourished; it must decline in their decline and

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rot in their decay. They traced this vigor and virtue to inexhaustible springs. And as the unspent heat of a lava soil, quickened by the returning summers through the vintages of a thousand years, will still glow in the grape and sparkle in the wine, so will the exuberant forces of a race supply an unstinted vigor, to mark the virtues of immense populations, and to the remotest generations.

* * * * *

"Wealth in its mass, and still more in its tenure and diffusion, is a measure of the condition of a people which touches both its energy and morality. Wealth has no source but labor. 'Life has given nothing valuable to man without great labor.' This is as true now as when Horace wrote it. The prodigious growth of wealth in this country is not only, therefore, a signal mark of prosperity, but proves industry, persistency, thrift, as the habits of the people. Accumulation of wealth, too, requires and imparts security, as well as unfettered activity; and thus it is a fair criterion of sobriety and justice in a people; certainly when the laws and their execution rest wholly in their hands. A careless observation of the crimes and frauds which attack prosperity in the actual condition of our society, and the imperfection of the means for their prevention and redress, leads sometimes to an unfavorable comparison between the present and the past in this country as respects the probity of the people. No doubt covetousness has not ceased in the world, and thieves still break through and steal. But the better test upon this point is the vast profusion of our wealth and the infinite trust shown by the manner in which it is invested. It is not too much to say that in our times, and conspicuously in our country, a large share of every man's property is in other men's keeping and management, unwatched and beyond personal control. This confidence of man in man is ever increasing, measured by our practical conduct, and refutes these disparagements of the general morality.

* * * * *

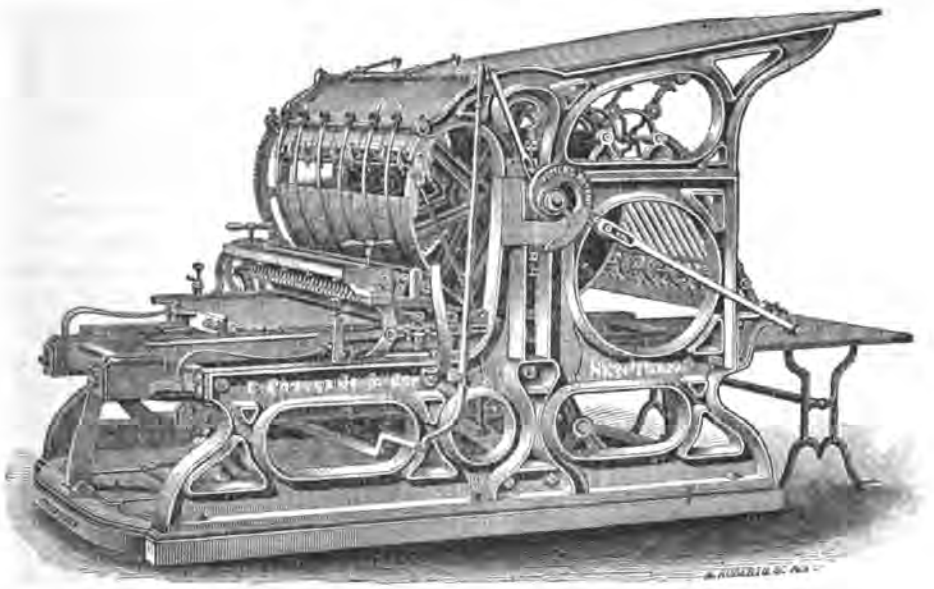
"The care and zeal with which our people cherish and invigorate the primary supports and defenses of their own sovereignty, have all the unswerving force and confidence of instincts. The community and publicity of education at the charge and as an institution of the State is firmly imbedded in the wants and desires of the people. Common schools are rapidly extending through the only part of the country which had been shut against them, and follow close upon the footsteps of its new liberty to enlighten the enfranchised race. Freedom of conscience easily stamps out the first sparkle of persecution, and snaps as green withes the first bonds of spiritual domination. The sacred oracles of their religion the people wisely hold in their own keeping as the keys of religious liberty, and refuse to be beguiled by the voice of the wisest charmer into loosing their grasp."

THE NATIONAL LOSS THROUGH RUM.—In one of her able lectures at the Chatauqua Temperance Convention, Miss F. E. Willard thus alluded to the astounding folly and wastefulness which liquor-drinking entails upon American society:

"America in its Centennial year is spending in rum as much as it would cost to put five lines of railroad from Maine to California, with all their equipments; as much as it would take, in addition to that, to endow a university with ten millions of dollars to every State in the Union; as much as it would take, in addition to that, to build a five-thousand-dollar school-house for every one hundred people in America; and as much as it would take, in addition to all that, to put out at interest and pay for one teacher for every one hundred people of the forty-two millions in America; and we get for all that tremendous outlay—what? Fifty per cent. of all the insanity comes from strong drink; seventy-five per cent. of all criminals become such while crazed by alcohol; eighty-five per cent. of all the murders grow out of drunken brawls, and come from grog-shops; and ninety-six per cent. of all the worthless youth emerge from drunken homes—nests of criminals."

Our people are much given to boasting of their practical common sense: this certainly does not indicate a big share of discretion.

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THE LIBERTY OF THE PRESS: ITS USES AND ABUSES.

HAD Laurentius, Gutenberg, and Schaeffer foreseen all the grand and all the terrible results that would flow from their invention of the art of printing, they would have been appalled by their magnitude, extent, and duration; and, like the mass of the people, would have feared that a fiend in the guise of an angel of light, was luring them to death, to possible damnation.

Walking for pastime in the wood, Laurentius cut letters in the beech bark, and, pressing paper upon them, stamped the letters upon his paper; from that hour mental daylight dawned again upon the world; from that hour Hoe's printing-press was a "coming event," and the evangelization of heathendom a possibility. In order to understand and appreciate the press as it now exists, we must follow its course of growth from the beech-bark letters to the mighty engines and wonderful varieties of cast type that occupy the great printing establishments of the present time.

It reads like romance now, that Laurentius made wooden blocks on which he carved by pages the words for printing several small works, and that this laborious process was continued some length of time; that he thought only of using one side of the paper, leaving the other blank. Following this method a few years, he then made a great step in advance by inventing separate wooden types. It is told that he dwelt in a "decent and fashionable house in the city of Haerlem, opposite the royal palace." Thus the power that was to shake thrones, undermine despotism, and break a road for the onward march and battle-plain of liberal principles in religion and government, sprang into being almost under the eye of royalty. Insignificant in its beginning, as has been many another mighty agent of God, its very paltriness, clumsiness, and weakness were doubtless a cause of the art surviving its birth; had it not been kept secret through the jealousy of its discoverers until it had attained some small degree of perfectness and permanency, it would doubtless have awakened princely or priestly distrust, and would thus, for the time, have been lost to mankind.

The theft of the idea and the art by workmen who introduced it into several cities and countries, also tended to its improvement and preservation, so one man's loss became the gain of the centuries. Geinsfleich, the servant or apprentice of Laurentius, with his bundle of embezzled wooden types, betook himself to Mentz, and there

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in 1440, commenced printing, having communicated his art to his younger brother, who has been called Gutenberg, and who dwelt at Strasburg till 1444; the two brothers afterward joined together at Mentz in the printing business, and tried to make a font of metal types with cut faces; after years of toil and a multitude of failures, they triumphed, in or about 1450, immortalizing their success by printing a part of the Bible.

Faust was now united to their partnership, adding to the brothers' ingenuity, his money. Schaeffer, a skillful workman, was afterward taken into the company, and he, gathering together their knowledge and experience, so fused and wrought all within his own great brain, that it produced the grand idea of casting type with faces, and thus, by the thought of each, added to the sum of all that had gone before, the art of printing has slowly grown from its childhood to full stature. To describe or even enumerate the various appliances and improvements of the art that have gathered around it since its birth, would fill a volume, and when we compare the bundle of stolen wooden letters with the vast quantities of beautiful type packed in the foundries today, we are ready to exclaim, "What hath God wrought!" for no power less than Divine could have inspired man to accomplish such marvels.

Whilst the names and memory of many who helped advance the art during its first feeble years, have perished utterly, and some dispute the claims of Laurentius, others, and especially Schaeffer, have received glowing tributes. Lambinet says: "Gloire donc à Gutenberg, qui, le premier, conçut l'idée de la typographie, en imaginant la mobilité des caractères, qui en est l'âme; gloire à Fust, qui en fit usage avec lui, et sans lequel nous ne jouirions peut-être pas de ce bienfait; gloire à Schaeffer à qui nous devons tout le mécanisme, et toutes les merveilles de l'art."*

* ["Glory then to Gutenberg, who first conceived the idea of typography by devising movable characters, which is the essential part; glory to Faust, who applied them to use, with him, and without whom we, perhaps, would not have enjoyed this benefit; glory to Schaeffer, to whom we owe all the mechanism and all the wonders of the art."—Ed.]

The earliest book extant is the Mazarin Bible, so the idea that was to illuminate the mental world of untold millions, in its first extended use, was employed to convey the thoughts of God to the sons of earth. An art so consecrated ought surely to bring good rather than evil to human kind; and the first printed books were generally of a superior order—works of theology and essays upon civil and canon law, were most numerous, and many editions of the classics were issued. Different writers estimate that from ten to fifteen thousand books or pamphlets were printed between 1470 and 1500; the number issued since could scarcely be numbered, much less named.

The price of books which had been so enormous that only wealthy nobles or monasteries could afford their purchase, was diminished two-thirds after the invention of printing. The University of Paris, Hallam says, fixed the price at which books should be sold in France, and the "Greek Testament of Colinæus was furnished for twelve sous, the Latin for six." This was about 1470; thus the press had already gained sufficient stability and permanency to enable it to so multiply and cheapen books as to bring them within the reach of men of moderate means.

The only opponents of the press, at first, were the copyists of books and the few dealers in manuscript works, parchments, etc.; but as their number was insignificant beside the vastly greater number of those who were benefited by the increase and cheapness of printed matter, their opposition was of trifling moment. After a time, other opponents arose whose hostility was more formidable. The Church had shown its jealousy of books so early as 1121, when Abelard fell under the censure of the Council of Soissons, for permitting his book to be copied without first having obtained leave of his superiors, and the copies were burned.

The Universities of Paris, Toulouse, Bologna, Vienna, and doubtless of other cities, had either usurped, or, as is more probable, been given a certain supervision over the booksellers of their cities, and books were not generally sold without their authority; the Universities fixed the prices, imposed

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fines for incorrect copies, and even ordered books they thought harmful to be burned. Thus they were fostering a spirit hostile to freedom of the press, which at length, in 1486, found utterance in the order, or edict of Berthold, Bishop of Mentz. Hallam gives the substance of this document in the following words: "Notwithstanding the facility given to the acquisition of science by the divine art of printing, it has been found that some abuse this invention, and convert that which was designed for the instruction of mankind to their injury. For books on the duties and doctrines of religion are translated from Latin into German, and circulated among the people to the disgrace of religion itself; and some have even had the rashness to make faulty versions of the canons of the Church into the vulgar tongue, which belong to a science so difficult that it is enough to occupy the life of the wisest man. Can such men assert that our German language is capable of expressing what great authors have written in Greek and Latin on the high mysteries of the Christian faith, and on general science? Certainly it is not; and hence they either invent new words, or use old ones in erroneous senses; a thing especially dangerous in sacred Scripture. For who will admit that men without learning, or women, into whose hands these translations may fall, can find the true sense of the Gospels, or of the epistles of St. Paul? Much less can they enter on questions which, even among Catholic writers, are open to subtle discussion.

"But since this art was first discovered in this city of Mentz, and we may truly say by divine aid, and is to be maintained by us in all its honour, we strictly forbid all persons to translate, or circulate when translated, any books upon any subject whatever from the Greek, Latin, or any other tongue, into German, until, before printing, and again before their sale, such translations shall be approved by four doctors herein named, under penalty of excommunication, and of forfeiture of the books, and of one hundred golden florins to the use of our exchequer."

Thus the first direct attack upon the liberty of the press was made by the Church of Rome, and her hostility to the advancement of knowledge through the influence of a free press, has continued almost, or rather quite, to the present day. In 1509, the Inquisition at Cologne procured from the Emperor an order to destroy all Hebrew books excepting the Bible. This order was, however, revoked, before any steps had been taken to execute it; but subsequently the Inquisition burned any work which it saw fit to condemn; the reading of the Bible was interdicted, and people became afraid to own or read any book which the priesthood did not approve. This condition of things extended throughout Europe. The struggle which terminated in the Reformation was long and bitter, and the press has been struggling with, and gradually freeing itself from, those bonds, from that hour to this.

It has been thought grand to say "the pen is mightier than the sword;" it were truth better told to say, it is mightier than the cannon; but, beside the power of the press, the power of the pen is as cob-web to cable; for the pen, without the press to give enduring life to its productions, is almost as helpless as a nursing infant deprived of its mother. The press, rather than sword or cannon, has become the arbiter of the destiny of nations. It is the builder and conserver of civilization. Every click that tells off a printed page of pure thought, turns the wheels of progress one notch forward.

The press, by advocating the claims and showing the advantages of public improvements, has bound continents together by a net-work of railroads and telegraphic wires, bridged the ocean by electricity, and made it possible for each of earth's inhabitants to clasp in his hands the blessed text of God's Word. The press talks in every tongue, outlines any landscape, delineates any face, copies and keeps fresh in memory the angels and seraphs depicted by hands that went to ashes centuries ago. It can call into existence an army or build a navy; by an appeal it erects monuments to scholars, poets, and heroes; feeds starving nations, sends help to insect-ravaged States or burned cities. It makes and unmakes reputations, raises the weak,

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obscure man upon a pedestal, or drags the once strong, noble man down.

Without the press the eloquent utterances of our divines and orators would die within the ears of their hearers, instead of echoing and re-echoing throughout the vaulted universe. Longfellow and Tennyson would be wandering Minnesingers, and Tyndall, Huxley, and Draper, alchemists hunting nature's secrets for the elixir of youth or the means of turning base metals into gold.

A torn slip of printed paper has tainted many a soul till, blackened and defiled, it has dragged itself through all earth's slime into the pit; while a similar rag of paper printed over with some pure thought has taken, by its agency, many a renewed spirit through the glory of a good life up among the sons of God.

But, powerful as the press is for good, most powerful is it also for evil. To-day it may send forth a message to comfort, purify, and bless; to-morrow it may give wings of fearful power to that which shall blight or blast many a human soul. Mighty as is the press, it has too often no conscience, is but a puppet in the hands of evil men and works as legibly, clearly, and elegantly upon the book which curses all who read it with the curse of a polluted imagination, as upon the volume of prayers wherein some redeemed son of man has recorded the soarings of his soul toward the infinite source of all perfection. The press has such potency that if it scattered good thoughts alway and everywhere, the saving influences thus generated would people earth with angels, whilst if unlimited license were given to print the bad, the story of Sodom and Gomorrah would repeat itself in every hamlet and city of earth.

If, then, modern civilization has evoked from the dumb forces of nature and man's soul a power that outweighs and dominates all other powers combined of wealth, rank, and genius, shall we give it into the hands of whoever may feel inclined to wield it, reckless of all consequences and irresponsible of all results, knowing, as we do, that in the hands of one, it is a beneficent spirit, and in the hands of another a very arch-fiend? Or, shall we have a censorship of the press, surround it with restrictions, fetter it here and manacle it there, curb and force, and regulate and direct, and ball and chain it, lest it do the world mischief, lest it cripple or destroy now and then a reputation, yea, now and often a human soul?

Many will answer, "Yea, verily, restrain the liberty of the press; let no immortal spirit be put in peril, if any care, or vigilance, or penalty can shield it." These are they who confound (though totally unlike) liberty with license. The one is the right of the human being or soul, to do whatever is for its good or pleasure, within the bounds of non-trespass upon the good or pleasure of any other human being or soul; whilst the other is the fancied right of any person to seek its good or pleasure, any way, anywhere, irrespective of the good or pleasure of any or all other human beings. The right sort of liberty is compatible with the best good of every member of society. And the fallacy of the foregoing reason for fettering the press is apparent, since it may be urged with equal truth against almost all the inventions and improvements of modern times.

The post may convey hints and information to rogues who will thus be enabled to rob, forge, or murder with greater hopes of success and less chance of detection. Shall we therefore abolish the postal service? Because more evil comes to the operatives by their concentration in mills and factories, shall we suppress them by law and bring back the distaff and spindle to all our firesides? The telegraph may be used to convey information that will create a "corner" in the markets, thus raising the price of life's necessaries and distressing the poor. Shall we therefore cry, Away with the telegraph?

No! we find that everywhere in life evil and good walk hand in hand; even marry, bringing forth children of light and imps of darkness. If we divorce them, they form unions more deplorable than those dissolved, or re-marry. By fettering the press we risk losing the thousand good things a free press might have produced, and we do not succeed in putting down or killing out evil, heresy, or schism, for just so long as mankind are born with different powers and

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faculties of mind, will they devise new forms of belief, new dogmas, new creeds, and new methods of bringing them to the knowledge of their fellows and inducing their acceptance.

By liberty of the press we favor competition between rival publication houses and societies; newspapers and books are cheapened, and scattered by individual purchase, clubs, and libraries throughout the land; knowledge is disseminated, intelligence is quickened, life gains new importance in every way. And if we compare morals and the statistics of crime in lands where the press was restricted and those where it is, and has long been, free, we shall not find that virtue seems any stronger, vice any less common, or the general good of the people more thought of and guarded, in the former than in the latter; whilst stupidity, ignorance, and sloth much more abound.

We need only turn to the historical records of the time when the press was struggling against popish authority and governmental jealousy, when the best books were interdicted, while newspapers were but just coming into existence, and read the accounts of warfare, of assassination, of martyrdom for opinion's sake, of general debauchery and wide-spread crime, to be convinced that the press which leavened the minds of thinking men, till thought culminated in the Reformation, has been a powerful agent in giving us not only knowledge, but civil and religious rights. Germany and England were the first European countries which obtained anything like liberty of opinion and right to publish anything which disagreed with the views of priest and ruler, and a most bitter and long-continued contest was waged to accomplish it.

The good old days of "merrie Englande" are often referred to by poet and orator, but the historian strips off the romance and *couleur du rose*, and shows us in plain words how evil were those days while the press was chained. Draper says of the fifteenth, sixteenth, and seventeenth centuries: "The annals of those evil days are full of wanton and objectless barbarities, refusal of quarter, murder in cold blood, killing of peasants. Invading armies burned and destroyed everything in their way; the taking of plunder and ransom of prisoners were recognized sources of wealth. Prosperous countries were made a 'sea of fire;' the horrible atrocities of the Spaniards in America were rivalled by those practiced in Europe; deliberate directions were given to make whole tracts a desert. Long before Henry VIII., England was ready for the suppression of the monasteries. There were incessant complaints against the clergy for their scandalous lusts."

The clergy of that time were not only dissolute, but illiterate; the custom of copying manuscripts having fallen into disuse, or being but slightly practiced, they had lost their taste for literature. Reading was far from universal, and the stage was almost the only public means of amusement or instruction, and the corruption of the stage was something fearful. Many of the plays were indecent beyond description. In one of the "Mysteries," Adam and Eve appeared nude; yet during this time there was a censorship of the press in England, which expired only in 1679, though certain restrictions yet continued; but, in truth, the fetters which bound the press were political and religious fetters; neither clergy nor government troubled themselves about guarding the people from that which was base, demoralizing, or licentious. Macaulay writes: "Any person might, therefore, print at his own risk, a history, a sermon, or a poem, without the previous approbation of any public officer; but the judges were unanimously of the opinion that this liberty did not extend to Gazettes, and that, by the common law of England, no man not authorized by the crown, had a right to publish political news."

Yet England was far in advance of the remainder of Europe in advocating and upholding liberty of opinion and expression. What we wish especially to note in regard to these times when the press was not yet free, is the insecurity of life and property, and almost universal disregard of personal purity and chastity. Macaulay says that "One hundred thousand women were estimated as rendered profligate by the priesthood" in England alone. These few words picture to any reflecting mind the utter

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corruption of the times. And little or nothing of this can be attributed to the press; though most secular publications were tainted through and through with indecencies that would not be tolerated now; yet the number of readers was so restricted that the widespread immorality could not have been caused by the literature of the times, but came rather from too close an imitation by the people of the manners and morals of clergy, nobles, and kings.

Confine the noblest intellect in a dungeon, and in time power of thought will die out within his mind. The press is like man in this; if it be not wholly free, it becomes fearful, cringing, servile, and, like any craven, wholly unreliable. Whilst fettering the press may prevent some works dangerous to the moral or spiritual natures of man from taking a permanent form, the ignorance or bigotry of the censor might also prevent the publication of books of the greatest worth and importance.

What any and every people need, is such a censorship, such a restriction of the press as a high moral and religious tone among the masses would afford. It is a truth that publishers send forth such wares as they know by experience the people will buy. When they find that slang, equivocal expressions and illusions, sensational stories, slanderous anecdotes, details of crime, and lewd publications however disguised, have no market, because the people are morally and intellectually educated above and beyond them, they will certainly cease their publication.

The cheapness of books, caused by perfect freedom of the press, has multiplied and extended libraries throughout the civilized world. In our own land, everybody almost —save the very poor—own more books than once did the wealthiest monarch or monastery; while persons of only moderate means, but possessing a literary taste, will number their volumes by scores and hundreds. Corporations, societies, and public libraries possess thousands upon thousands of printed books and old manuscripts. The royal libraries of St. Petersburg, Vienna, Paris, and the library of the British Museum at London, omitting all other collections, contain more intellectual riches than were extant in the world before the art of printing was exercised.

There is no doubt the manuscript works of the ancients, the riches of Constantinople and Alexandria were over-estimated. When we consider the labor of preparing papyrus and parchment, the immense amount of parchment consumed, the time necessary to copy out so many volumes, and the comparatively small reading public, we can scarcely believe so many books — or rolls, rather—were prepared, as many writers assert. Even in the palmy days of Egypt, Greece, and Rome, the reading population must have been far less than in our day, and the number of writers could not have been nearly so great; for there can be no doubt that facility of publication urges hundreds to become authors who otherwise would turn their attention to more remunerative pursuits.

Authorship has never been, save to a favored few, a lucrative occupation, but has rather been followed for love's sake by most who make it a profession. Genius has often been worse paid than mediocrity; and, in those days of persecution and death for truth's sake, many an author and printer paid their lives for daring to defy tyranny—for daring to speak their own thoughts in their own way. So far was persecution carried, even in England, that, so late as the seventeenth century, it was not safe to read or own anything printed surreptitiously; George Thompson's adventures with his collection of pamphlets—now a part of the wealth of the British Museum—exemplifies this assertion. He began about 1640 to collect the publications relating to the controversy about church government, and, until after the Restoration, he proceeded as he said "with that chargeable and heavy burden, both to himself and his servants that were employed in that busines, wch continued above the space of twenty yeares, in wch time hee buried three of them, who tooke greate paines both day and night wth him in that tedious employmt." Besides the labor, the business was dangerous. Notwithstanding the censorship many prohibited pamphlets appeared, and search for

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their authors was often keen. "Even to possess such publications was a matter of peril; and, in the present case, the peril was increased by the preservation and transcription of many obnoxious MSS." "In this numb. of pamphletts is contained neere one hundred sev'all peeces in MS., most of wch are on the king's side, wch no man durst venture to publish here without the danger of his ruine."

These books passed through many vicissitudes. "When the army was northward," they were packed off into Surrey; when the army moved westward, they were returned. Thompson fearing to keep them, sent them to a friend in Essex. Alarmed by another movement of the troops, he "was feign to send for them back." Finally, he concealed them by placing them in tables with false tops in his warehouse, where they remained until the collector made a sort of transfer of them to the University at Oxford. After some years they were bought by George III. and given to the British Museum.

France ("La Belle") has passed through many political and religious contests, and there can be no doubt that if freedom of opinion had been accorded to her people in those days when she hung and burned such men as Stephen Dolet, the mad, terrible strife of later days would have been avoided, and the career of men like Robespierre, Marat, and Napoleon would have been an impossibility.

A free press is a constant check upon tyranny or abuse of power. A ruler who would be despotic—trampling all laws, human and divine, under foot—providing he could escape popular execration, would hesitate to commit the same acts, if he knew the knowledge of them would be sent, not only through his own dominions, but throughout the civilized world, upon the wings of the public prints.

By a careful survey and comparison of those lands where the press has been most guarded, watched, and restricted with those where it has been longest free from surveillance, we plainly see the vast superiority in morality, intelligence, and religious feeling of the people in the latter over those in the former; and while we acknowledge that the sensational literature of the day, which includes morbid fiction, details of atrocious crime, and whatever panders to a low moral and intellectual taste, is a source of vast and incalculable evil; that the custom of befouling political opponents by opprobrious names is a crying fault; that the advertisement of wares known to be worthless and even injurious is an open and constant sin committed by the press; that the paid praise of orators, singers, and actors is unworthy the profession of journalism; still, these evils are white beside those flowing from restriction, and these very evils have been permitted when the press has been most shackled.

Doubtless the worst effects of a free press arise from the facility with which demagogues obtain the ear of the people, and, by constant iteration of their views and policy, obtain adherents and advocates of the wildest schemes or most corrupt measures. Yet, while much money and labor is wasted upon projects almost wholly useless, on the other hand, works are often urged by the press that prove of vast public and private gain. Every business of any magnitude owes as much of its prosperity to the newspaper press as to the actual labor of its founders and operatives. By advertisements and notices the papers dispose of more goods than any clerk behind the counter; exchanges or sells more real estate than the most faithful agent; builds up more schools, libraries, and churches than all the book-readers, teachers, and ministers combined.

Since evil is but a deficiency or excess of good, the two bear such an intimate relation to each other as to be almost or wholly inseparable from any pleasure or business of earth; and since God himself allows evil and even sin to exist, and employs them as agents in bringing about good, it is useless for mankind to attempt by restrictions to separate them entirely from any honorable pursuit; and if the press may be fettered, put under censorship, because it is not wholly pure and upright, so may any and every calling in which men engage.

There is no nobler, more honorable class of men and women in the world than that

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large and ever-increasing one which represents the press in the various departments of compositor, reporter, correspondent, editor, and author. For morality, generosity, native ability, education, intelligence, and every honorable and worthy quality, they challenge comparison with the members of any other profession; and when, in any department of life's industries, we find high qualities predominate in those engaged in it, we may be sure that such an enterprise needs no surveillance by other men.

And, until we can call in requisition some higher ability than any vouchsafed as yet to man, some far-reaching and omniscient intelligence which can unravel the evil from the good in all literature, and with unerring precision, determine what is for the growth and welfare of every soul in Christendom, it were better the press should remain entirely free, except as to those gross publications which tend directly to corrupt and destroy.

The fountain of Helicon, it is fabled, though yielding pure water when untroubled and flowing freely, had, nevertheless, a muddy bottom, and care must be used by those who would drink from it, or they mingled the pure fluid with mud. The press is like this fountain. If its flow is prevented, the black mud — which is the evil connected with every earthly enterprise—and its pure water or good becomes mingled; and, as in the French revolution, when the press broke its bonds and flooded Paris with the maddest, most terrible writings, it devastates and destroys everything in its mad career.

Though rights will be ignored, justice evaded, and sin committed to the end of time, we have the best guaranty of the greatest good flowing to the greatest number; while there is equal chance for every one to make known his grievance, and least chance for crime to shield itself, in the broad mental daylight of a free press.

It can never happen that an art devoted from the first to publishing for mankind the love of Christ and the laws of God—an art whose most beautiful, most cherished specimens, the early Bibles, are sought after by princes and literati, held at fabulous prices, and regarded with the utmost reverence by all men—can ever become so lost, so devoted to evil and its emissaries as to require the authority of government or church to prevent fatal harm to the true interests of mankind.

Go into the Bible House and see the works of the press in every written language upon earth; think of the consecrated labor, that, through centuries of con-



stant effort, has been employed upon the heaped treasures; and, after a careful study of the subject, name any other field of labor so slightly remunerated, wrought by men of such ability, presenting such noble results. No! the works of the press are our noblest monuments. A free press is a safeguard of liberty—a sure defense against wrong or abuse of power.

A. V. PETTIT.

UPON examining the edge of the sharpest razor with a microscope, it will appear as broad as the back of a knife—uneven and full of notches. An exceedingly small needle resembles an iron bar. But the sting of a bee seen through the same instrument exhibits everywhere the most beautiful polish, without a flaw, or inequality, and it ends in a point too fine to be discerned. The threads of fine lawn appear coarser than the yarn with which cables are made. But a silk-worm's web appears smooth and shining and everywhere equal.

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LETTERS TO A SON IN COLLEGE.

No. I.

MY DEAR BOY:—I am very happy to hear that you are pleasantly located and well-established in your college-home.

The institution of which you are a member ranks deservedly high in moral tone—for the thoroughness of its discipline and the ability of its teachers. I trust you will fully appreciate and improve the advantages which you enjoy of gaining a liberal education.

Having passed through a college course myself, I am able to appreciate your position. I can foresee the temptations to which you will be subjected, the difficulties which you will meet, and the dangers which will beset your pathway. I have made myself familiar with your curriculum of study, and, from my experience with the world, I am able to judge of the relative practical importance of the various branches which will receive your attention. I hope you will give diligent heed to what I may say; for I think I am well-qualified to give such counsel and instruction as will enable you to derive the greatest benefit from your college course.

Let me at the outset give you a clear idea of the object for which you should study.

It is one of the evil results of the system of honors and prizes, which exists in most of our colleges, that they are too often made the goal of the student's ambition. Even before he enters college, many an ambitious youth canvasses the list of prizes in the catalogue, and marks out those for which he intends to make special effort.

"Where is my forte?" he says. "Is it in Latin, Greek, mathematics, the natural sciences, writing or speaking, or do I possess such general abilities as will enable me to bear off the first honors of my class?"

His armor is burnished and buckled on for the fray the moment he enters the college walls, and he enters upon the contest with a zeal which renders him blind to nearly every consideration but the selfish gratification of bearing off the first prize or the first honors. The college course of many a student thus becomes a mere strife of brains and physical and mental endurance. He who is the brightest—he who consumes the most midnight oil—he who is willing to make the greatest sacrifices of physical and mental vigor—he is the one who receives the plaudits of admiring friends, and who is honored by his family as their proudest joy.

Now, I do not know that it would be well to do away entirely with rank and prizes in college. Doubtless, until the student's ambition shall be directed by a higher order of intelligence and morality, they will be useful in stimulating to diligence, and in elevating the standard of excellence in the various departments of college study. But I would caution you against making these honors for themselves the object of your endeavor. Let it be your ambition to make the most of yourself to rear to the highest perfection of which they are susceptible the mental and physical powers which the Creator has bestowed upon you.

This is the proper notion of education—the training of the physical and mental organs to act promptly, vigorously, and harmoniously. He is the best educated who has all his faculties the best-developed and under the most complete control, and who knows how to manage them in accordance with the laws of their organization.

Again, many a youth enters college with the idea that the success of his college career will be measured by the amount of knowledge which he carries away with him. He looks upon his brain as a sort of storehouse, and the college text-books and libraries as a magazine of general supply. The professors he regards as aids in helping him to cram his head with the contents of the books. He makes no special effort after rank or prizes, but rests satisfied in accumulating the product of other men's brains.

Now I would not depreciate the importance of a good fund of general information. The more a man knows of any subject, the better able is he to form a correct judgment in regard to it. We must have facts and data to support our principles; and

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it is useful to be familiar with the thoughts of the best minds in regard to any subject which may claim our attention. But I would caution you against making a mere granary of your brain. It is not what we eat, but what we digest and assimilate which builds up the body; so it is not what we read, but what we excogitate, which contributes to the true development of mind. We may clog the brain with a superabundance of mental pabulum, as we may overburden the stomach with an excess of food. In either case we do an injury to ourselves by perverting the normal function of these respective organs.

Some of the most original thinkers have been men of limited reading. The celebrated Dr. Robertson once said that he could count on his fingers all the works on theology that he ever read. And Miss Martineau declared she was one of the slowest of readers—sometimes consuming an hour on a page.

What I wish to impress upon you is the importance of mental thoroughness. Think, ponder, excogitate, dissect, analyze! Go to the bottom of every subject which engages your attention. Rest not content till you stand upon the substantial basis of its fundamental principles.

There are a thousand facts and phenomena to every principle. Get the principle, and you grasp the trunk from which radiate its myriad branches; consider the facts only, and you become confused amid a multiplicity of objects which present little order or connection.

Remember, also, that the true object of life is the development of the immortal part of our nature, and that knowledge is useful in proportion as it contributes to this high end.

There is a relation, nearer or more remote, between every object that exists and man. To know these relations, to understand how the various objects which exist about us may contribute to our physical comfort and enjoyment, and how our moral and intellectual natures may be best cultivated and developed—this is true wisdom. These are objects worthy of our serious study and our most earnest endeavor.

Let all your studying, therefore, converge to this one focal point, and you will achieve the true object of intellectual attainment.

Affectionately yours,

PATER CONFIDENS.

HARMONY OF SCIENCE AND RELIGION.

NOW, at eighty-two and a-half years of age, still, by God's forbearance and blessing, possessing my mental powers unimpaired, and looking over the barrier beyond which I soon must pass, I can truly declare that, in the study and exhibition of science to my pupils and fellow-men, I have never forgotten to give all honor and glory to the infinite Creator—happy if I might be the honored interpreter of a portion of His works and of the beautiful structure and beneficent laws discovered therein by the labors of many illustrious predecessors. For this I claim no credit. It is the result to which right reason and sound philosophy, as well as religion, would naturally lead.

While I have never concealed my convictions on these subjects, nor hesitated to declare them on all proper occasions, I have also declared my belief that, while natural religion stands on the basis of revelation, consisting, as it does, of the facts and laws which form the domain of science, science has never revealed a system of mercy commensurate with the moral wants of man. In nature, in God's creation, we discover only laws—laws of undeviating strictness, and sore penalties attached to their violation. There is associated with natural laws no system of mercy. That dispensation is not revealed in nature, and is contained in the Scriptures alone.

With the double view just presented, I feel that science and religion may walk hand in hand. They form two distinct volumes of revelation, and, both being records of the will of the Creator, both may be received as constituting a unity, declaring the mind of God; and, therefore, the study of both be-

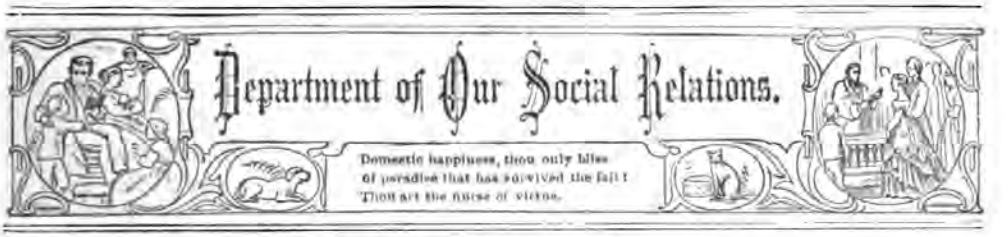
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comes a duty, and is perfectly consistent with our highest moral obligations.

I feel that, as this subject respects my fellow-men, I have done no more than my duty; and I reflect upon my course with subdued satisfaction, being persuaded that nothing which I have said or omitted to say in my public lectures, or before the college classes, or before popular audiences, can have favored the erroneous impression that science is hostile to religion.

My own conviction is so decidedly in the opposite direction, that I could wish that students of theology should be also students of natural science—certainly of astronomy, geology, natural philosophy and chemistry, and the outlines of natural history.

PROF. SILLIMAN.



PEACEMAKER GRANGE.

"The age culls simples;
With a broad clown's back turned broadly to the
Glory of the stars."—*Mrs. Browning.*

CHAPTER XIV.

A MODEL NURSERY.

"I HAVE heard," said Farmer Hallett to Judge Templeton, "that you have some novelties here in the way of caring for children. I trust you have not adopted the old Spartan idea, that the youngsters belong to the State?"

"No," replied the Judge; "we simply give every mother and father here as good, and better, opportunities to avoid oppressive burdens in caring for their offspring as wealthy English and American parents now enjoy."

"You do not, then, take them from their parents and raise them on strictly scientific principles, as some propose to?"

"We think that we raise them on scientific principles without taking them from their parents. But we do not think that the fact of motherhood should deprive a woman of nearly all participation in the other affairs of life, as it does usually among the poor, while the children are very young. Come, I will show you our public nursery and kindergarten."

He then led him to the west end of the main building, from which a covered way extended to a spacious and beautiful structure, seemingly one story high on two sides and two stories on the others; as the high ground on two sides hides the lower floor from view, except that small ventilating windows are seen on those sides. There are wide verandas on two sides, upon which many little toddling things were walking and playing. In the grounds all around larger children were playing. In the distance appear the chimneys of the factories over the tops of the trees.

Entering this building, they beheld the scene so graphically portrayed in the larger picture, which shows the interior of one wing of the nursery.

"You have heard," said the Judge, "that in cities now they are providing day nurseries, to which mothers who have to leave home can bring their infants. We have here an amplification of that idea, in the use of the youngest of these children. The others are really in process of education—in the first stages of kindergarten instruction. You will observe that the cradles for the youngest are placed in four compartments, which are essentially, as to ventilation, etc., four separate rooms."

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"I should think," said Hallet, "that the women who attend that department must be very fond of babies;" and he looked rather quizzical.

"Yes, indeed; they are all women who seem perfectly miserable away from babies, and are only too happy to perform any service for them."

"Twelve, twenty-four, thirty-six, forty-eight—I see there are cradles here for forty-eight babies," said Hallet, walking past the compartments, "while I count only nine of the little snoozers on hand at present. Is this a poor season?"

"The season is good enough; but there are not many here at this time of day. You seldom see more than twenty here at once; though there may be a hundred all told during the day—some of them belonging to visitors from East and West Haven."

"I should think that the sanitary feature would be troublesome."

"No, you perceive less evidence of vitiated air here than you will in ordinary nurseries containing one child. Prompt attention is the secret. Again, we have novel inventions here. These cradles are oval, and made of iron wire. Over the wire bottom is a cloth; upon the cloth six inches of bran. Over this a thin cloth. When the child is removed the dampened portion of the bran is replaced with fresh. Experience has shown that upon this simple bed, which is so easily kept sweet, the child does not suffer from cold in winter or from heat in summer. Soiled garments are instantly sent away, as I will show you."

Going to a window, he pointed out a building on a lower level several hundred feet off. Then opening a small cupboard door, he revealed a miniature railroad tunnel, with little cars on a double track. The opening was eighteen inches by three feet. A car stood waiting at the head of one track. A rope fastened to it passed around a pulley and ran down the other track.

"A gravity railroad, you see," said the Judge. "When the weight on the upper loaded car is not enough to pull up the empty one, a pitcher of water poured into that tin box under the car carries it to the bottom, where it dumps its load and the water automatically."

"Do any of these babies stay here all the time?"

"Only a couple of orphans at present. The society adopts its friendless orphans. Women bring their babes here when they wish to engage in work away from their rooms, or to visit where the child would be an annoyance. You may be sure we have no meetings here interrupted by squalling babies."

"But most good mothers can not bear to be separated from their infants for an hour."

"Ah, indeed, you will find that the fine city ladies, whom country ladies wish so much to imitate, do not often have their babies with them a whole hour at a time during the day. They visit the nursery occasionally to see that the wet-nurse does her duty, and have the baby brought to them when friends call to show it off. I venture to say that there is not a queen in Europe can leave her infant in charge of her hirelings with the same confidence with which the poorest woman here can leave her child with these her dear sisters, who have been picked out for this responsible position from so many hundred women."

"But will a mother be content to leave her dangerously sick child here?"

"Such children are seldom brought here. When they are, and the mother is much exhausted, she catches what sleep she can in an adjoining room. We always manage in some way to relieve those who have sick relatives, old or young, from the strain of watching. Few things have shortened so many lives as these extra strains. One of the blessedest things about our life is that neither men nor women here ever have occasion to strain themselves either mentally or physically."

"Are you not afraid of carrying this thing so far that women will become careless and indifferent toward their children?"

"Can a leopard change his spots? Can a mother forget her sucking child? We simply take away from motherhood and matrimony so many of the usual drawbacks that both are entered into with unusual zest. We have no 'unwelcome' children

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here, and no known inharmonious couples."

"And no divorces?"

"The absurd divorce laws are one objection to this State. It is said that there has never been but one divorce put through the Virginia courts. Wife-ownership goes hand in hand with slave-ownership. We gave due notice to our friends that divorce was next to impossible here, and advised incompatibles to stay away. Consequently, we have had very harmonious couples. A few that could not manage to hang together we sent to live in some enlightened Northern State till they got out of their misery."

"You maintain that your children of all ages are with their relatives as much as they should be?"

"Yes, indeed, we insist upon it. I was thinking only yesterday, as I watched a child a year old among its relatives, how important this environment was. The youngster was the center of attraction. There were the parents, grandparents, two cousins, two uncles, and an aunt. The coming of the little one was heralded a long way off. It was half smothered in kisses, and each must take a turn at dandling it. Then it was set upon the floor to amuse itself, and each one in passing had a caress or a fillip for it. These least ones are thus fed upon love and sympathy. Who can tell how much their life and future weal depend upon these things? No wonder that the babies in the most scientific foundling asylums die at such a fearful rate. No wonder that asylum children have usually so little life and sparkle in their faces."

"I notice," said Hallet, "that there is no crying here, either among the infants or the next larger children, except when a young one tumbles over and hurts itself."

"No; it is wonderful how such little creatures take care of each other, and how much annoyance they will stand without flinching when in company with a number of the same age. You will often see such a family group as I spoke of trying in vain to keep a little child quiet; whereas, if you would place that same child here with those of the same age, it would be still at once, and begin to scrape acquaintance. Even quite young babies delight to sit by the hour and gaze with open-eyed wonder at the older ones toddling and playing around."

"Are these that can just walk taught anything?"

"But little more than those of the same age elsewhere. They must learn when in the nursery that they are not monarchs of all they survey, as they are not apt to when with their fond parents. They must wait without crying until their turn comes to be attended to. They must stand up bravely in that little gallery in which they are taught to walk, and to pass their comrades without knocking them over or falling themselves; to watch the little babies, to admire the birds in the aviary, and talk with the parrots; to call the squirrel and make him turn in his cage; to guide smaller children by the hand on the balconies."

"They must become very curious about the operations of the larger children that they see through the railing."

"Yes; and as soon as they can fairly walk, they begin to ask leave to join these larger children. This is genuine *education*—their minds are drawn out—enticed out—instead of being forced. They are usually only set at any task after they have asked to be so employed."

"Those larger children, with their marching and dancing to the music of the violin, are having fine times."

"They certainly think so. This is the primary department of the kindergarten; in the other rooms you will see them busy with object-lessons. Very seldom is any punishment or compulsion needed with them."

"You must have had trouble in persuading your women to adopt such noveltics."

"Our leading ladies were used to following the teachings of common sense. They had most to do with arranging this part of the establishment."

Hallet, after inspecting the rest of the children's building, declared himself a convert; but shook his head dubiously when he thought of "the time he'd have" reconciling his wife to the plan; for he was arranging to bring his family to Virginia.

SAMUEL LEAVITT.

(To be continued.)

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YOUNG GIRLS.

DEAR JOURNAL: My especial weakness is for young girls, and I have been wondering whether you have many such among your readers. A real, natural girl from twelve to nineteen years of age, is to me the loveliest and most interesting object in the world. I have a peculiar yearning for them. But the interest I feel relates, perhaps, as much to their future as to their present. They are now at the period of life which, to a great extent, decides their future; and as the future of each is decided, so is decided the fate of an ever-widening section of the world's inhabitants, for all time to come.

Let us for a moment consider young girls as forming the center or axle of the wheel of the race. Soon each attracts and accepts a mate, and the section widens and goes on widening, till the rim of the wheel presents a wide array of those who shall in the future look back to the maiden at the center as the progenitor, and in great measure the arbiter of their condition and fate.

If young girls could realize this fact they would, I am sure, feel that there is something more to be heeded and sought, than the mere present gratification of their love for finery and display, and their desire for flattery and praise. They would reflect and consider that their ideas and conduct, their arrangements and decisions, are not for themselves and the present alone, but for an ever-widening circle and for all future time. Even those who do not marry are so intimately connected with future generations either as teachers, maiden-aunts, or counselors, that their influence will be transmitted from generation to generation; and if they do not widen the material circle, they may exert quite as marked a sway over the race as do their sisters who perpetuate it.

Always having had young girls about me, whom it was my duty and my pleasure to counsel and advise, I trust I shall be pardoned for repeating here what I recently had occasion to say to a young girl from the South, who has been under my supervision during the last two years, and who is shortly to return home for a visit; she is not of the higher classes, had never seen society, and was quite uninformed, being but fourteen years of age when she came to me.

"Do you know, Emma," said I, "that I am feeling very anxious about your going South? I am even fearful that your visit home may prove very detrimental to you so far as your further improvement and future happiness are concerned."

She was, of course, greatly surprised at this, and in explanation, I continued: "You can not help being aware that you are very much changed since you left your home. Then, you were a child; now, you are a woman. Then, you were stiff and awkward in your manners and could scarcely reply when spoken to; now, you are easy and graceful, and can converse pleasingly and with propriety. You have improved in your looks; you have blossomed out; you are dressed better, more tastefully, and in every respect you present a far better appearance than when you came North.

"Now, my fears for you are, that when you get back home you will look and appear so much prettier than the other girls—who would be just as much improved as you are if they had the same opportunities—that the young men and boys who in every grade of life and in all parts of the world are inclined to pay most attention to those who are best dressed, will tell you how pretty you have grown, and how *nice* you look, and you will be carried away with their court, and some of them will make love to you, and you will fancy, in your foolish pleasure at their attentions, that you are in love with some one—who happens to flatter the most pleasingly—and then you will be engaged, and finally married, to settle down in some poor way for life; with no chance for any further improvement, and without the first idea of what true love is, or of the responsibilities or requirements of married life!

"But let me tell you, Emma," I went on, "if you do this you will in less than three months be the most unhappy woman you can conceive of; you will miss the culture that you see here; you will miss the beautiful things which are all around you wherev-

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er you go; you will have no means to continue the gratification of your taste, or to renew your pretty clothes when they shall be gone, and you are not yet supplied with sense or maturity sufficient to enable you to make the best of everything and develop beauty in yourself by the very lack of it about you.

"Moreover, your *husband* will not flatter his *wife*; and as flattery is the food with which you have been won, you will be so hungry for it when it is withheld, that you will literally starve to death. And worse than all, a man who flatters much before marriage is very likely, after marriage, to flatter somebody besides his wife, which would be but bitter dregs for you to drink, to say nothing of the true food of love which you would inevitably lack.

"So I warn you to beware! In fact I do not want you to marry till you are twenty-five; and if you wait till that age, and go on improving every opportunity for culture, you will be fitted to grace a much higher position than you could now attain, and will be likely to win the love of a far nobler man than any one of those who will now flutter around you will ever be if you should marry him now. You will then have come to maturity, to a knowledge of yourself, and will be able to judge as to what you need in a companion to make you happy, as well as what kind of a companion would be most likely to be happy with you.

"Do not think, however, that you *must* marry, even then; and above all things do not ever marry for the sake of being married; for the sake of not being 'an old maid'; for if you do, you will deserve to be unhappy, and will be very likely to be so.

"Do not marry, either, for a home, or for anything but pure, true love, based upon common sense. Do not, above all things, indulge in that sickly sentimentalism that will lead you to fall in love with whoever pays you any attention, and to imagine that everybody who looks at you is dying to propose; for girls who conceive such ideas soon become disgusting to all who have anything to do with them."

If girls would be more self-reliant, more self-poised, and accept themselves as beings to be cultivated and improved, and taken care of by themselves so far as possible; and if parents and teachers would instil these ideas into the minds of even little girls, there would be fewer unhappy marriages, fewer unloved children, fewer divorces, and far less evil and crime than is now running rampant through every nation and all grades of society. Teach boys the purest, truest, noblest manhood, but however much we teach, it is the girls, the women, who must be self-centred, before men can be brought to their highest estate; before the race shall attain its God-given place, "a little lower than the angels."

MRS. E. P. MILLER, M.D.

WINTER BIRDS.

WITH whatever feelings of gladness we welcome back the birds, when the genial air of spring recalls them to their summer haunts, it is with even a more tender interest that we watch our winged visitors through the dreary winter. Birds are so associated in our minds with the thought of summer beauty, that we have a sort of tender pity in our hearts when we see them flying about over bare fields, or among leafless trees, and the most unobservant are then apt to remark their flight. Pity is, perhaps, not an appropriate emotion, but a very natural one, for there is something so akin to humanity in the air and manners of the feathered tribes, that it seems as though they ought to appreciate the comforts which we enjoy.

The migration of birds, the laws by which it is governed, the time and manner of its occurrence, make up a subject full of interest, and the most careful observations of science have not entirely freed it from mystery. There are several reasons why it has not been easy to do so. The causes of migration are not always entirely clear. One, doubtless, is the very human consideration of the "bread-and-butter question;" but

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they are not admonished by the pangs of hunger, because they generally leave their summer homes long before their supplies have failed them. It can not be wholly instinct; because these migrations seem to be largely influenced by circumstances, and if these be entirely favorable, they sometimes do not take place at all. Besides this, single individuals, whom we can not suppose to be exceptions to any general law of instinct, commenced. But some subtle perception of atmospheric conditions is possessed by these delicate organisms by which they are informed of coming cold long before the air has lost its softness, and with a wise forethought they anticipate its advent by a southward flight.

The most of those birds which visit the United States during the winter, come to us from far more frigid regions, and as their



Fig. 1.—Common Snow-Bird.

often linger about their old haunts all winter, even when food is scanty and their lodgings are not very comfortable. Temperature and other conditions of the atmosphere have more to do with the change of abode than anything else, although certainly the abundance or scarcity of food has an important influence, particularly after the journey has rapid flight brings them quickly from their northern homes to our borders, we know that many of them must be able to endure severe cold. Those general favorites, the snow-birds (Nephea Hyemalis), which seem to delight in the atmosphere of storm, cross the Canadian boundary as early as October, and travel southward by degrees according

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to the weather. When the snow falls in merry whirls, then in large companies, generally composed of one or two families, they come wheeling and tumbling about in the air as though in a very ecstasy of glee, so close do they keep to each other that they come constantly into contact as they alight upon the pure white sheet of snow, and run about over it like a merry party of children at play. When their frolic is over they address themselves to business with hearty interest and an appetite sharpened, no doubt, by previous exercise. Every withered berry, every dried seed-vessel that grasses. They are not generally found further north than Virginia in winter, spending the cold season chiefly in the Southern States, and retreating to the North early in the spring, for they are extremely sensitive to heat, and suffer from it. They are graceful in form, and have beautifully-shaded plumage, though sombre in tint.

The head and neck of the male is black, the wings a sober gray, and the breast white, slightly tinted with touches of buff. The female very nearly resembles her mate; the tints are softer and more like those of the dove, the head and neck being a smoke-



Fig. 2.—Snow Bunting.

is uncovered by the snow is diligently explored; and if the weather be severe, the company will come quite close to the house door to look for crumbs of charity, which they are generally sure to find. They pay early visits to the poultry-yard, where they avail themselves of the labor of the fowls in scratching the hard ground. Sometimes they join a covey of partridges with the same view to partnership in spoil, and will even partake of squirrels' dainties. They are true hopping-birds, and Audubon notices that they often leap up from the ground and dexterously seize the panicles of the pendant blue, and the back dove-color. Their flesh is much esteemed, and epicures are willing to pay a high price for so delicious and juicy a morsel, and in consequence, multitudes of the tiny creatures are shot for the Southern market. They leave Louisiana in March, and by easy journeys reach their summer abode. They nest and rear their young chiefly in the eastern part of the Alleghany Mountains, in June; are found as far north as Maine and the northern lakes in the United States, and also in Canada.

They do not sing during cold weather, but at the return of spring they learn a

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simple love-song, which they warble softly to their mates while engaged in building their tiny nests of straw, hair, and moss in low bushes. They feed largely upon huckleberries in summer, frequenting the mountains, where they grow abundantly.

But it is as the sprites of the snow-storm that they interest us most, descending upon us as if from the clouds, and vanishing again with the snow wreath in the sunshine.

Like some other winter birds, they make a cosy little nest or burrow for themselves in some neighboring hay-stack, or other convenient spot, where they may retire from the extreme severity of the weather, their usual shelter being the boughs of the evergreens.

They do not seem to delight in storm quite as much as the snow-bird, and are rather driven before it, often seeming to suffer the pangs of hunger, and uttering short, lively cries of congratulation when they discover an ample supply of food. They prefer to be near the water, and generally seek such situations for their nests; but we know them only as guests, as they nest in the northern Arctic islands. The nest is made of grass and straw, lined with hair, in lowly situations. A touching story is told of such a nest being found upon the breast of a dead Esquimaux child which lay unburied. These birds, like most

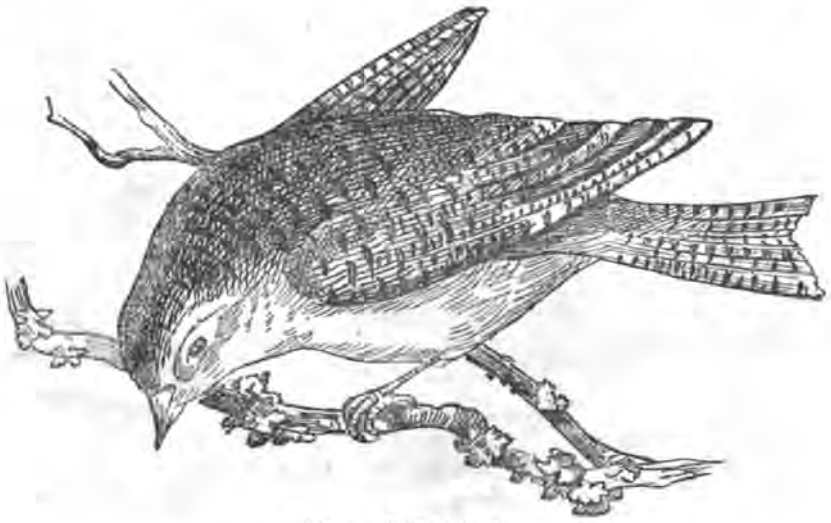


Fig. 3.—Winter Wren.

The bird popularly known as the snow-bird of our Northern States is the Snow Bunting (Plectrophanes nivalis). Further north it is called the "White Bird." The breast and lower part of the wings are white, the back is brown and marked with black, and also the wings. It closely resembles the common snow-bird in its habits, but it breeds upon the shores of the Arctic Sea, and in the winter extends its migrations into the United States. Only one nest has been found within their limits, and that in the White Mountains of New Hampshire. This bird feeds on grain and seeds, and has a sharp eye for any stray berry that may be seen gleaming amid the snow, and obtains insects when it can.

of our winter friends, are very social. It is said that they have been seen in high latitudes in immense flocks of as many as a thousand at once. They run upon the ground with a light, swift motion. As they migrate from one place to another in the night, they come upon us by surprise, and often enliven the snow-covered landscape by their company.

They fly compactly in large flocks close together, and alight upon fences and low buildings in crowds. They are capable of lofty and protracted flight, but when they alight they generally remain a long time in one neighborhood, if not disturbed by sportsmen; but like most winter-fed small birds,

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their flesh is delicious, and they tempt the cupidity of man by its ready sale, and their pretty, confident familiarity is soon exchanged for a shy timidity.

We have spoken fully of these two species because in their habits they form a type of many others; and with but slight variations what we have said of them may be said to be generally true of many of the smaller kinds of our winter birds. The robin and the wren, our childhood's friends, often call upon us for hospitality, and are sure of a welcome. They are both sociable and friendly toward man, and the wren is so bright and cheerful with its quick, brisk movements and pleasant song, that it can not fail to be a favorite. So persistent is its cheery, brave spirit that it will sing even in the midst of a pelting storm. It nests in the White Mountains, and like fashionable humans, leaves them on the approach of cold weather, and abides the winter in New York and Pennsylvania. It is of a dark brown hue, crossed with dusky touches upon the back wings, the neck and breast being of a dingy white.

This little creature is sometimes found, also, in the Rocky Mountains, but more abundantly amid the eastern ranges.

A bird which is often mistaken for the snow-bird is the chickadee, which often consorts with other kinds—the nuthatches and creepers, for instance; but they more frequently visit the woods, while the chickadee is attracted to the country gardens by the seeds of the sunflowor, of which it is very fond. We have seen them alight in such numbers upon the withered flowers and stalks at to quite cover them. They hang by their feet in all possible and impossible positions, and hold the kernel often in the claw as a parrot does. They resemble the snow-birds somewhat in appearance, but may easily be distinguished from them by any but a very careless observer.

ANNIE ST. CLAIR.

THE ASH-GIRL.

A beggar girl is standing by gay Stuyvesant Square,
With listless eye she watches the merry children there;
For they are not *her* playmates; even had she wish to play,
Full well she knows each one would turn from her with scorn away.
When, from a gentle lady who passes in the street,
Where wealth and its strange contrasts of want and misery meet,
She hears the sweet "My darlings!" and the children's eager cry,
"Oh, mother! mother!! muzzer!!!" while a bright smile meets her eye.
Her hungry heart beats faster, tho' not for *her* the word,
For in her hovel home no soft, caressing tone is heard.

At first she passes on her way with tone of mocking jeer;
But soon, unto her eye there comes the all-unwonted tear,
As she softly says, "I wonder, oh, I wonder, if there be
In all this great, wide city, a mother kind for me?"
A strange, wild hope now filleth the little ash-girl's heart,
And of her very life, it grows still more and more a part.
The joy, which of that hope is part, her pallid face reveals,
As from the hut—her task fulfilled—each day she softly steals.
And unto every one she meets, she brings the eager plea,
"Oh, do you know a mother? A mother kind for me?"

Thus, daily going forth, at last it seems a useless quest.
Some answer, but with idle words, what seems an idle jest.
Some scornful say, "What impudence; a beggar, as I live!"
Some give a dinner, but, alas! they have no love to give.
One speaks of the asylum; but charity is blind.
It is not charity she seeks—she seeks a mother kind.

At last, one day in weariness, her wild hope nearly gone,
She sits beside a home of wealth, yet homeless and forlorn.
She sees a funeral train pass out, to bear a casket small,
Unto the final resting-place, which waiteth for us all.

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Then lingering, sees re-enter, the pale mother—
but the door
Has scarce closed on the mourner—in her sorrow
weeping sore—
Ere it opens to the ash-girl, who with pallid
cheek and brow
Says, "Oh, may I see the mother? Please *do* let
me see her *now!*"
"Go away!" exclaims the servant. "You will
vex her with your din."
But a sweet voice answers, "Debby! Let the lit-
tle child come in."

Such a room she ne'er hath entered, with its cur-
tains rich and rare;
And its carpets soft as velvet, but the gentle lady
there,
Tho' with grief her face is shadowed, is the fair-
est sight to see.
So she trembling, asks, "Dear lady! can you
love a child like me?
Oh, I know I am not lovely, and I know I am
not sweet,
But I want—I want a mother!" falling prostrate
at her feet.

With clasped hands she weeping waiteth—quick
the gentle lady's eye
Is turned tear-blind from the stranger, but she
hears the bitter cry:
"Oh, I do *so* want a mother! but in all the world
I see
There is no tender mother for a beggar-girl like
me!"

Then, in a moment turning, she softly thus re-
plies:
"It is as if my angel-child were calling from the
skies,
"'Oh, mother! take the little one who pleads be-
side your knee,
And be to her as true and kind as you have been
to me!'
Rest thy tired head, my darling, upon my bosom,
so,
And I will be to thee as kind a mother as I
know."
Thus the long, long search is over, and the pil-
grimage is past—
As the weary child is folded to a loving heart at
last.

MRS. JULIA A. CARNEY.

WHY MAR THE IMAGE?

CHAPTER I.

A "SOCIETY" MARRIAGE.

"EUNICE, are you happy?"

The young girl, fair as a lily and as little qualified to endure the rough by-ways of life's experience as the tube-roses that sent an intoxicating aroma through the pent-up atmosphere of a Fith Avenue mansion, stood in her mother's presence and answered only with a tear.

"You are bewitchingly beautiful," continued her mother, "and I am not at all surprised that the son of a baronet has claimed your hand in marriage. Your *trousseau* is elegant! There's nothing in our set that equals it. My darling will create a genuine sensation in the London court. What! In tears, my child?"

The daughter gave a gesture of impatience.

"Has your married life been a happy one, mother?" she asked, abruptly.

Mrs. Lathrop uttered a half-smothered sigh. What her married life had been was her own affair, she thought. But, as she stood before her child, struck dumb for the nonce by the earnest question, memory struggled to assert its sway; and at last her voice gave utterance to an involuntary ejaculation of agony, as she remembered the family vault in stately Greenwood, wherein the mortal remains of all of her children slept, except the one fragile flower now standing in her presence, waiting in her costly habiliments to be gathered by a suitor of gentle blood, to grace the home of a descendant of the royal line of a foreign realm. And this exotic stood before her, shivering with a nervous dread as she listened to the ceaseless pattering of the pitiless rain.

"You don't answer me, mother?"

Mrs. Lathrop sighed; "I might be happy," she said at last, "if I had my other children with me; but, like Rachael, I can only refuse to be comforted because they are not."

"I feel more like wearing cypress wreaths than orange blossoms, mother! How I wish the night were not so stormy."

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"Never mind, dear," said the mother, soothingly. "The guests will all come in carriages. The storm will not hinder the enjoyment of the evening."

"I may be superstitious, and I suppose I am, but I do dislike to be married on a rainy night."

"Never mind, dear. It was just such a time as this when I was married."

"I have a positive notion to send an excuse, and decide that I won't be married at all!" exclaimed Eunice.

"Open the window, Bridget. The air is close. It's the tube-roses," said the mother, noticing the pallor on her daughter's lips.

"Will you go down and excuse me, mother? I don't want to be married at all!" cried Eunice, throwing herself into a chair, thereby sadly deranging her flowing veil and fragile orange wreaths.

"*Mercy, child!* You'll spoil your clothing if you sit down in that way! And, as to excusing you to the guests, the very idea is absurd! Take some wine, dear. There; you'll feel better now."

The mansion was ablaze with light. Servants in livery waited at the arched portals; carriages lined the street; a canopy led the way from the brown-stone stile to the brown-stone steps; and a carpet, subdued in colors and costly in fabric, protected alike the trailing skirts of beauty and the dainty boots of fashion from the inclement storm that howled a pitiful *Miserere* through the dismal, sodden streets wherein a detachment of Metropolitan police kept guard, holding at bay the curious throng of idle lookers-on whose knowledge of high-life is mainly gleaned from glimpses stolen through such slight advantages for observation as such a wedding may afford.

In one of the many carved alcoves in the triple parlors where expectant guests were waiting, stood the officiating clergyman and the impatient bridegroom.

These men had known each other from boyhood, and there had ever been a strong bond of sympathy between them, in spite of the fact that they were as perfect opposites as are ever created in the image of man.

The bridegroom was the third son of an English baronet, and had inherited neither wealth nor fortune in his own country, so he had crossed the water in search of a fortune, which he was now ready to grasp in the person and effects of General Lathrop's daughter. His companion was the eldest son of an English clergyman of the Established Church, who would never have adopted the ministry from choice, but who had been forced into the surplice despite the desire of his judgment to walk and work in the lead of such investigations as have made famous the philosophy of a Combe, a Mill, a Spencer, or a Huxley.

"The women have a terrible amount of fuss and weariness over nothing," exclaimed the waiting groom elect.

"Plenty of time after you're married, Mr. Sargeant," smiled his friend.

"What's the matter, Harcourt? You look a whole funeral sermon of serious forebodings, and make a fellow nervous."

"Have you ever studied the temperaments, Mr. Sargeant? Do you understand the influence of one temperament upon another in the matrimonial relation?"

The bridegroom-to-be looked into the face of his taller companion with a blank gaze of inquiry.

"I beg pardon. I think I fail to comprehend your question," he said, hesitatingly.

"Have you ever studied the physiological laws of generation? the proper adaptability of each mental and physical organization to its counterpart in the opposite sex? In a word, do you know what you are about to risk? Have you calculated the consequences of this marriage?"

"Oh! Now you talk like a sensible man. Upon my word, Harcourt, I began to tremble for you sanity. Of course I've calculated the consequences. General Lathrop makes a handsome settlement of real estate upon me unconditionally, and bestows ten thousand dollars in a lump upon my wife as a wedding present. Then her mother and other friends are loading her down with valuable gifts. One necklace alone, that was sent up to-day from Tiffany's, is worth three thousand pounds sterling."

"And, is it possible that you expect to purchase happiness with these baubles, my friend?"

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"They'll at least purchase wine and beefsteak, and pay a gentleman's little bills, Harcourt."

"But will they insure you a happy household and a harmonious family of sons and daughters to rise up and call you blessed?"

"Again you carry me beyond my depth. You always were a metaphysical puzzle to me. But then, a clergyman must needs live in the clouds. Of course you are not expected to know much about the value of money. The women, God bless their simple souls, are always on the look-out for opportunity to cater to the caprices and satisfy the needs of their spiritual advisers. But the third son of an English baronet, with healthy elder brothers, entailed estates, and heavy mortgages as his forlorn dependence, who must meet the claims that rank and society fasten upon him, despite his impecuniosity, soon gets ideal moonshine out of his head, and then he goes into the practical investigation of such mercenary considerations as he finds necessary to liquidate outstanding obligations. But come! The guests are all assembled by this time. Deuced uncomfortable night, this."

The two gentlemen emerged from behind the arched alcove, and attendants took the bridegroom elect in charge, leaving the clergyman to his own meditations. He had not long to wait. Sliding doors disappeared in the walls of an adjoining room, and the bridesmaids and groomsmen entered the brilliant parlors and took their allotted places, followed by the groom in indispensable black, with regulation vest and gloves, upon whose arm Mrs. Lathrop leaned, fairly resplendent in diamonds and Mechlin lace, and wearing a smile that bore no trace of the sorrowful outburst that had occurred in her daughter's chamber. Then the bride appeared accompanied by her father, an anxious, shriveled, nervous, angular man, who followed the eyes of his wife with a solicitude that would have been painful to behold had it not been laughably ridiculous. The General was at home in a military campaign, but he felt sadly out of place in his own parlors.

All was ready. The young couple stood beneath a wedding bell of whitest and costliest flowers, and the gay throng of guests waited deferentially within the glow of the massive chandeliers, which the dark storm without mocked unavailingly.

Mr. Harcourt, heeding not the giddy assemblage, busied himself in an agonized reverie with his own forebodings, as he muttered half audibly, "Those who sow the wind must reap the whirlwind."

As rapidly as lightning his thoughts ran on, down through the vista of the unfolding years.

"Temperaments too much alike," he soliloquized; "Phrenological developments incompatible. Woman too much brain for her body. Man more body than he needs for his brain. He's weak in the upper story. Hair thin and lanky; eyes blue and watery; chin too narrow; moustache pale and sickly; neck too thick for a narrow top-head. Self-esteem and Approbativeness inordinate; little Firmness, small Caution; Causality deficient; large Benevolence, little Reverence; ditto Hope; Mirthfulness and Alimentiveness large; inclination to apoplexy. Girl fair and slight. Has large Spirituality, and he has none; has little Caution and excessive Hope, great Reverence, little Self-esteem; neck too thin, chest too narrow, and Vitativeness small. I can't conscientiously marry such a couple to each other."

While this soliloquy was pending, the bridal party stood in confused expectancy.

Mr. Sargeant thought all sorts of things, and looked daggers and appeals by turns.

Suddenly the clergyman recollected himself and grew greatly disconcerted. The awkward silence was fearful. The night winds shook the shutters as with a threatening admonition, and the situation was too overpowering for Mr. Harcourt's resolution.

Stifling the conviction that the time had now come for a practical application of the warning that rang in his ears, he proceeded to recite the beautiful marriage service of the Episcopal Church. But while his lips repeated the echoes of his voice as he mechanically performed his allotted part, his heart re-echoed the understanding of his brain, and he mentally ejaculated again and again the Scripture text, "They that sow the wind shall reap the whirlwind."

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The service was over at last. And while the congratulations of the crowding guests welled through the great mansion, and rippling laughter expressed the thoughtlessness of a hundred unreflecting minds, Mr. Harcourt looked as with a prophetic eye through the coming years, and as he gazed, beheld the blighted fruit of an ill-assorted marriage laid away in premature graves.

The unsatisfactory result of the effort of two natures to blend, in whom there was no blending, became to him a vivid knowledge; and as he gazed upon the bride he felt himself a criminal, for had he not assisted without protest in performing a ceremony that would insure a harvest of whirlwinds for the fragile lily who, in her ignorance, had spoken her own sorrowful doom? And was he not the great offender, since he had known his duty and had done it not? Had he not sinned against light and knowledge?

The wedding festivities that followed rang in his ears like the knell of doom.

Mrs. Lathrop, as became the wife of a General in high standing in the regular army, shut the door of her heart against her buds of thwarted humanity that slept in the family vault, and was all smiles and bows, and graciousness. The General, a nervous and yet lymphatic man, lean from the effects of inordinate smoking, and anxious because out of his element in fashionable society, moved uneasily through the parlors, thinking possibly of his daughter's future happiness or misery; possibly of his blighted buds in the Greenwood vault, but probably of the coming political contest wherein he was known to have personal interests at stake of very considerable moment to himself and his relations.

The festivities were prolonged till the wee small hours of the morning. Mrs. General Lathrop had insisted that the wedding should take place at the family mansion instead of the church, in the evening instead of the morning, and that the girl-wife should spend the first twenty-four hours of her new and strange existence under the parental roof. All of which was highly commendable, but it was to be regretted that she did not go yet farther, and dispense with the night-long revelry and the almost Bachannalian feast that followed the wedding ceremony.

What wonder that young people make mistakes! What wonder that they so often wreck their nuptial bark even in the ceremony of launching it upon the ocean of matrimony. When parents who have proved by their own sad experience that life's voyage, as they have made it, has brought to them Sodom apples instead of the golden fruit of the tree of Life, yet fail to teach their children that, in order to fulfill the high purposes of a holy marriage, they must needs follow the behests of nature in preparing the human body for the proper imprints of God's image upon the living tabernacles that are to be the outgrowth of a union that the wise shall judge by its fruits. Why do not parents learn, as by intuition, that such a bark to be successfully launched must be sent from the ways of the nuptial contract into an ocean unruffled by waves of excitement, and that they who are to guide it must not feast nor fast, or in any other unnatural way overstimulate the vital economy of life that permits no waste of its forces to pass unavenged upon the offspring to the third and fourth generation?

The father and mother of Eunice Lathrop lacked sufficient stamina—possibly they lacked the knowledge—to break down the unnatural demands of society by giving a private wedding, that they might thus consign their newly-married daughter to her strange relation and its reasonable consequences, with a mind and body unstimulated by wines and dancing, or wearied by late hours and giddy company.

If there is one relation above all others to which men and women should consecrate themselves in the holiest calmness and most devout self-and-society abandonment, it is in this important one, where they are acting not for themselves alone, or chiefly, but for the great future, in which human lives are to be unfolded, either as perfect images of the great Author, or as monstrosities, or sickly, enervated weaklings, which are but caricatures of the original design. Men and women do not "gather grapes of thorns nor figs of thistles," yet they live and act as

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though they expected such results to follow their indiscriminate sowing of tares.

The night had wept itself into a fitful slumber, broken only by the sobs of the retreating wind as he gathered his forces and hied away for a renewed conflict in another quarter. The long line of carriages, freighted with revelers from the wedding banquet, drove through the otherwise deserted streets; the canopy and carpet were removed from stile and doorsteps; policemen and ragged boys betook themselves to other scenes of excitement; the arched portal of the mansion was closed and double bolted.

Mr. Harcourt returned to his home in the family of an intelligent husband and wife, with whom he had often read and talked concerning the best and fairest, but oftenest marred and despoiled of all God's creatures, those made in His own image, after His likeness, who were created male and female, and given joint dominion over all the earth; and, as he told of the wedding and the wedded, and of his own self-condemnation under the part enacted by himself, he rose suddenly to his fullest stature, and called Heaven to witness that he would never again sell his soul and his understanding to unite in marriage two lives whose mutual inadaptability would make but a bitter mockery of God's and man's holiest ordinance, thwart humanity of its birthright of health, harmony of development, and length of days, even on the very threshold of its existence.

At ten o'clock on the next morning after the wedding, all was bustle and confusion in the home of General Lathrop. The bridal party was to visit Niagara and Saratoga, and revel during the hottest summer months in the gay society of Long Branch. Mr. Sargeant, full of that pride in the mother country which Englishmen rarely subdue, proposed a wedding tour across the water, to which his mother-in-law positively refused, for the present, to consent.

When pressed by her daughter for an explanation, she said, enjoining the utmost secrecy, "My bridal tour was an ocean voyage. Your father was accustomed to the water, and experienced no inconvenience from sea-sickness, but I was dreadfully afflicted. I may not tell you all about it, dear, and would to God it were not my duty to tell you anything, but I became so disgusted with everything and every body, and with your father especially, that nothing but human law and human custom have bound me to him since. I confess that I'm ashamed of it, but I can not help it. This aversion to your father, of which he does not dream, and which I would die rather than the world should know it, has been my life-long curse. Of my five children I have only you left. The others, Heaven pity me and them, were all blighted in their babyhood, and were laid away like worm-eaten buds. They were disgusted with life before they saw the light, and the only reason you have lived to hear this awful story, is because your father was absent from home during the most of your pre-natal life. It is a fearful revelation, but a true one. Daughter, you must not run the risk of my experience. Life is hard enough to bear, even if we use it without abusing it. Your father is a good man, and intends to be just, Eunice. I am not complaining; I would only warn you. General Lathrop has suffered the pangs of bereavement as well as I. But oh, a little knowledge of the laws of nature and a little obedience to her behests would have saved us all this trouble."

"Mother!" cried Eunice, her eyes flashing with anger; "why did you not initiate me into the knowledge of some of your dearly-bought experience long ago?"

Mrs. Lathrop could not answer.

A. S. DUNIWAY.

(*To be continued.*)

GIVING JOY TO A CHILD.—It was said by Douglas Jerrold:

"Blessed be the hand that prepares a pleasure for a child, for there is no saying when and where it may again bloom forth. Does not almost everybody remember some kind-hearted man who showed him a kindness in the dulcet days of his childhood? The writer of this recollects himself, at this moment, a barefooted lad, standing at the wooden-fence of a poor little garden in his native village, while with longing eyes he gazed on the flowers which were blooming there quietly in the brightness of a Sabbath

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morning. The possessor came forth from his little cottage; he was a wood-cutter by trade, and spent the whole week at work in the woods. He had come into the garden to gather flowers to stick in his coat when he went to Church. He saw the boy, and breaking off the most beautiful of his carnations—it was streaked with red and white—he gave it to him. Neither the giver or the receiver spoke a word, and with bounding steps the boy ran home. And now here, at a vast distance from that home, after so many events of so many years, the feeling of gratitude which agitated the breast of that boy expresses itself on paper. The carnation has long since faded, but it now blooms afresh."

Kindness begets joy and love, and love begets trust, and all the better feelings; while cold, repulsive selfishness, begets harshness, neglect of others. Children should be permitted to bask in the sunshine of kindness and affection, especially at home. This would call out their confidence, and secure their obedience. Parents, love your children, that they may love and obey you.

GEORGE SMITH,

THE ORIENTALIST AND AUTHOR.

ARCHÆOLOGICAL and Oriental research mourns the death of this gentleman, whose discoveries, at an age when most men have but begun the practical work of original investigation, had crowned him with honor, and awakened the highest expectations of his future accomplishments. He was but thirty-seven or eight years old. An appreciative sketch, which was published in *Nature*, states that Mr. Smith was born of poor parents, and his school-education was terminated at fifteen, when he was apprenticed to Messrs. Bradbury and Evans to learn the art of engraving. While in this employment he often occupied half the time allowed for dinner for visits to the British Museum, and saved his earnings to buy the works of the leading writers on Assyrian subjects. Sir Henry Rawlinson was struck with the young man's intelligence and enthusiasm, and furnished him with various casts and squeezers, through which Mr. Smith was led to make his first discovery, the date of the payment of tribute by Jehu to Shalmaneser. Sir Henry was so much pleased by this performance, that he proposed to the trustees of the Museum that Mr. Smith should be associated with himself in the preparation of the third volume of the "Cuneiform Inscriptions of Western Asia." This was in 1867, and from that year Mr. Smith entered upon his official life at the Museum, and devoted himself to the study of the Assyrian monuments. The first fruits of his labors were the discovery of two inscriptions, one fixing the date of a total eclipse of the sun in the month Sivan or May, B.C. 763, and the other the date of an invasion of Babylonia by the Elamites in B.C. 2280, and a series of articles in the *Zeitschrit für Ægyptische Sprache*, which threw a flood of light upon later Assyrian history and the political relations between Assyria and Egypt.

In 1871 he published "The Annals of Assur-bani-pal," or Sardanapalus, transliterated and translated, a work which involved immense labor in the preparation of the text and the examination of diverse readings. This volume was followed by an excellent little pamphlet on the chronology of Sennacherib's reign and a list of the characters of the Assyrian syllabary. About the same time he contributed to the newly-founded Society of Biblical Archæology a very valuable paper on "The Early History of Babylonia" (since republished in "The Records of the Past"), as well as an account of his decipherment of the Cypriote inscriptions which had hitherto been such a stumbling-block and puzzle to scholars. The Cypriote syllabary as determined by him has been the basis of the later labors of Birch, Brandis, Siegismund, Doecke, Schmidt, and Hall.

It was in 1872, however, that Mr. Smith made the discovery which has caused his name to be very generally known in Europe and America. His translation of "The

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Chaldean Account of the Deluge" was read before the Society of Biblical Archæology on the third of December, and, in the following January, he was sent to excavate on the site of Nineveh by the proprietors of the *Daily Telegraph*. After unearthing the missing fragment of the deluge story, he returned to England with a large and important collection of relics and inscriptions. Among these were fragments which recorded the succession and duration of the Babylonian dynasties; a paper on which was contributed by the discoverer to the Society of Biblical Archæology. It was in connection with these chronological researches that Mr. Smith's invaluable volume on "The Assyrian Eponym Canon" was written for Messrs. Bagster in 1875.



Shortly afterward he again left England to continue his excavations at Kouyunjik for the trustees of the British Museum, and, in spite of the difficulties and annoyances thrown in his way by the Turks, he succeeded in bringing home a large number of

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fragmentary tablets, many of them belonging to the great Solar Epic in twelve books, of which the episode of the deluge forms the eleventh lay. An account of his travels and researches was given in his "Assyrian Discoveries," published at the beginning of 1875. The remainder of the year was occupied in piecing together and translating a number of fragments of the highest importance, relating to the Creation, the Fall, the Tower of Babel, etc. The results of these labors were embodied in his book, "The Chaldean Account of Genesis."

The great value of these discoveries induced the trustees of the museum to despatch Mr. Smith on another expedition, in order to excavate the remainder of Assurbani-pal's library at Kouyunjik, and so complete the collection of tablets in the British Museum. Mr. Smith accordingly went to Constantinople last October, and, after some trouble, succeeded in obtaining a firman from the Sultan's government for excavating. He set out for his last and fatal journey to the East in March, taking with him Dr. Eneberg, a Finnic Assyriologue. While detained at Aleppo on account of the plague, he explored the banks of the Euphrates from the Balis, northward, and at Yerabolus discovered the ancient Hittite capital, Carchemish—a discovery which bids fair to rival in importance that of Nineveh itself. After visiting Devi, or Thapsakus, and other places, he made his way to Bagdad, where he procured between two and three thousand tablets discovered by some Arabs in an ancient Babylonian library near Hillah. From Bagdad he went to Kouyunjik, and found, to his intense disappointment, that owing to the troubled state of the country it was impossible to excavate. Meanwhile, Dr. Eneberg had died, and Mr. Smith, worn out by fatigue and anxiety, broke down at Ikisji, a small village about sixty miles northeast of Aleppo. Here he was found by Mr. Parsons, and Mrs. Skene, the consul's wife at Aleppo, and was conveyed by easy stages to Aleppo, where he died on August 19th. He has left behind him the MS. of a "History of Babylonia," intended to be a companion volume to his "History of Assyria," published by the S. P. C. K. last year.

A remarkable incident relative to his death, which has been given a wide circulation in the English press, and stands unchallenged as to its truth, is the following:

"This gentleman (Mr. Smith) died at Aleppo on the 19th of August, at or about the hour of six in the afternoon. On the same day, and between three-quarters of an hour and an hour later, a friend and fellow-worker of Mr. Smith's—Dr. Delitzch—was going to the house of a third person, the author of the account of the labors of the departed scholar, which appeared in *The Academy*. In the course of his walk Dr. Delitzch passed within a stone's throw of the house in which Mr. Smith lived when in London, and suddenly heard his own name uttered in a 'most piercing cry,' which thrilled him to the marrow. The fact impressed him so strongly that he looked at his watch and noted the hour.

"Dr. Delitzch, who strongly disavows any superstitious leanings, was ashamed to mention the fact to his friend on reaching that gentleman's house, although on his return home he owns that his nervous apprehensions of some mournful event in his own family found relief in tears, and that he recorded all the facts in his note-book that same night. Dr. Delitzch told the story on the 5th inst., at a friend's breakfast-table, with all the circumstances mentioned, including the hour at which he heard the shrill cry. He distinctly denied having been thinking of Mr. George Smith at the time."

His portrait indicates an active temperament, a tolerably strong physical organization, and a vigorous perceptive intellect. He was evidently an earnest, thorough worker; one who entered upon an agreeable task with enthusiasm, and perhaps was inclined to forget the care of health and strength in the absorption of his pursuit. We regret his death on account of the young family it has so sharply bereaved, and on account of the serious loss experienced by Bibliological inquiry, in the deprivation of that marvelous instinct for ascertaining the substance of an ancient inscription which distinguished him, and gave him the name of "the intellectual picklock."

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THE LIGHT-SIFTER.

WE may say that it was only the other day that the true nature of LIGHT was discovered, and, indeed, it is quite possible that the ultimate theory of its nature has not yet been announced, and that we have only taken a step in the right direction, and may need *more* light *upon* light before we can deem ourselves fully *en*lightened upon this subject. According to the theory now universally received, the whole universe is filled with a boundless ocean of highly-attenuated matter, to which has been given the name Ether. This ether when at rest can not be perceived by any of our senses, but the rush of the heavenly bodies through it causes a friction which without doubt will finally bring the swiftest of them to a dead stop, though, after a lapse of so many millions of ages, that the youngest of us need not borrow trouble by speculating on the consequences when those slow times arrive. It fills all space; it mingles, though never combines, with the atmosphere; and is constantly present in all the pores between the atoms of both solid and liquid substances. If you throw a stone into a pool of perfectly still water, from where the stone strikes waves in regular succession proceed in all directions. Now, ether is a fluid capable of being acted upon in a similar manner. Its smallest particles are in constant vibratory motion, and, when the waves come closely enough after one another, they produce the sensation we call light. A luminous body, then, means one which has the power to set ether in motion, so as to produce upon our eye the sensation of light.

There is a very close analogy between light and sound. A harp-string or fiddle-string set in vibration sets the air all around in undulatory motion. The waves of air surge into our ears at the rate of about 1,100 feet in a second, strike against the tympanum, and occasion the sensation we call Sound. Air in motion is the cause of hearing; ether in motion is the cause of seeing. So, really, our eye is only a marvelously delicate and refined species of ear. The words of Job, afterwards amplified by the genius of Shakespeare,* "the morning stars sang together," is more than a poetic fancy. The words seem like a Divine hint of this modern discovery that there is an essential likeness between seeing and hearing.

A musical note, as distinguished from mere noise, is produced only when the impulses of the air reach the ear at regular intervals. Its *pitch* depends on the number of impulses in a given time; the greater the number of vibrations in a second the higher will be the note produced. When there are less than sixteen sound-waves in a second, or more than 40,000, the ear is no longer sensible of a musical sound. This brings us to see the

ANALOGY BETWEEN MUSICAL SOUNDS AND COLORS.

Colors are to the eye what musical tones are to the ear. A certain number of ether-impulses in a second against the eye is necessary to produce the sensation of light; if their number be above or below a certain number, they are no longer recognized as light. The number of these waves striking the eye in a second so as to cause the sensation of light is almost incredible; they vary from 450,000,000,000 to about 800,000,000,000. If these waves are propelled against the eye at the slower rate, they produce the sensation of dark red, and, as they increase in rapidity, they produce yellow light, and so on through green, blue, and violet, at which pace our eye becomes incapable of measuring the ether-motion. But, meanwhile, the ether-waves may go at a vastly greater speed; and some of them go so slow as not to be perceived by the eye at all. What become of all these waves rolling in perpetually on the shore of human-

* " . . . Look how the floor of heaven
Is thick inlaid with patines of bright gold:
There's not the smallest orb which thou beholdst,
But in his motion like an angel sings,
Still quiring to the young-eyed cherubim.
Such harmony is in immortal souls,
But whilst this muddy vesture of decay
Doth grossly close it in, we can not hear it."
—MER. OF VENICE.

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ity? Are they useless and unnoticed? By no means. These vibrations, slower than light-waves, as we may call them, produce the sensation of heat; while those which are too rapid for light-waves reveal themselves by their powerful chemical action. Professor Stokes has actually seized these more than lightning-express beams, and moderated their pace so as to compel them to give the sensation of light. The course of the vibrations, as they successively produce sound, heat, and light, has been interestingly described as follows:

"In the middle of a large, darkened room, let us suppose a rod set in vibration and connected with a contrivance for continually augmenting the speed of its vibrations. I enter the room at the moment when the rod is vibrating four times in a second. Neither eye nor ear tells me of the presence of the rod, only the hand which feels the strokes when brought within their reach. The vibrations become more rapid, till, when they reach the number of sixteen in a second, a deep hum strikes my ear. The tone rises continually in pitch, and passes through all the intervening grades up to the highest, the shrillest note; then all sinks again into the former grave-like silence. While full of astonishment at what I have heard, I feel suddenly (by the increased velocity of the vibrating rod) an agreeable warmth, as from a fire diffusing itself from the spot whence the sound had proceeded. Still, all is dark. The vibrations increase in rapidity, and a faint-red light begins to glimmer. It gradually brightens till the rod assumes a vivid-red glow, then it turns to yellow, and changes through the whole range of colors up to violet, when all again is swallowed up in night. Thus Nature speaks to the different senses in succession. At first a gentle word, audible only in immediate proximity, then a louder call from an ever-increasing distance, till, finally, her voice is borne on the wings of light from regions of immeasurable light."

You can easily see that we can conceive the possibility of having more senses susceptible to those ether-waves which are slower or faster than those we now perceive. Indeed, it is possible that some of the lower animals have a different range of some of the senses from ours. For instance, the cow can probably hear slower vibrations than human beings; for animals generally have for their normal note the middle of the scale to which their ear is susceptible. But the normal tone of the cow is much lower than with us; so, possibly, it can hear further down the scale than we can. Our next step is a short and simple consideration of

REFRACTION OF LIGHT;

and, to understand this most easily, you must forget for a moment that light consists of waves of ether, and consider it as consisting of an infinite number of straight rays darting toward us, as though Apollo in the sun were hurling against us silver arrows from a golden bow. The refraction of

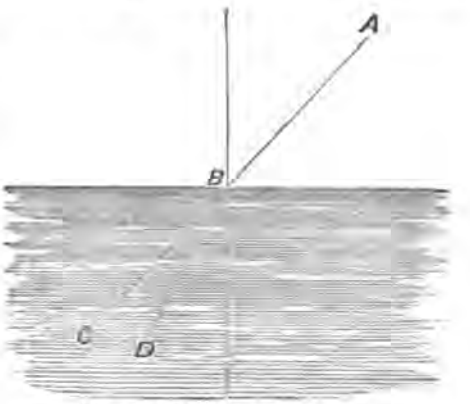


Fig. 1.—Refraction of Light.

light means the *bending* of light. A ray leaving the sun, or a lamp, or any other luminous body, proceeds in a perfectly straight line, but certain circumstances may change its direction. You know that light passes with more or less readiness, not only through space empty of everything except ether, but also through air of different degrees of density, through water, glass, and several other objects. Now, when a ray of light passes from any one of these mediums into another, or from thinner air into thicker, it is bent out of its straight course. The accompanying illustration will show what is meant. Here I must make a short digression. A ray of white light, such as proceeds from the sun, may be said to be made up of a bundle of rays, containing all the colors of

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the rainbow from red to violet. You see these rays sifted apart in the rainbow, in the diamond-flash, and in the cut-glass of chandeliers or goblets. And now to return to the direct track. I have just said that a ray of light passing, say from air into water or glass, is bent out of its course. If you plunge a stick into a vessel of water, the stick will appear bent at the point where it enters the liquid, as in illustration, thus giving the appearance as if the stick were lifted or bent upward. This phenomenon is caused by refraction. But how is it, then, that when we look through a window, all things outside do not appear twisted out of their true position, like the stick crooked in the water? Because, though the ray is bent downward when it enters the glass, when it emerges at the other side the process is naturally reversed, so that it resumes the original direction. (See illustration of light passing through a plate of glass.)

Now let us take the ray of light, and putting it to further torture, as they treated unwilling witnesses in days of yore, see if we can not force it to disclose some secrets of its nature and origin. Instead of a rack or thumbscrew we shall use a *prism*. What is a prism? It is usually a piece of glass,

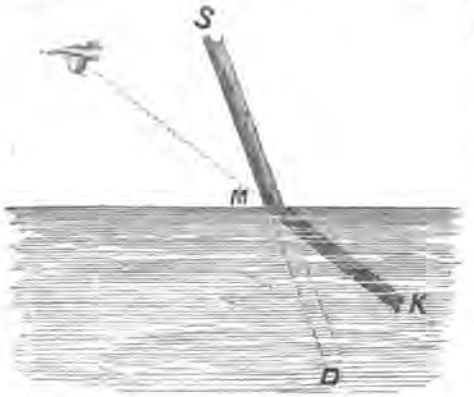


Fig. 2.—Appearance of a Stick in Water.

having five surfaces, two of which are parallel to each other, and three of which, bounded by parallel edges, cut each other at different angles—it is shaped like a wedge. The accompanying illustration will give a good idea of what is meant. Now pass one ray of light through it, as in the illustration. The ray A B entering the prism, is deflected in the direction B C; it passes to the opposite side of the prism; but, instead of recovering its former line of march as it would in passing through a window, it is still further deflected, and emerges in the direction C D. Now let us use, as is befitting, a dark room for the place of tor-

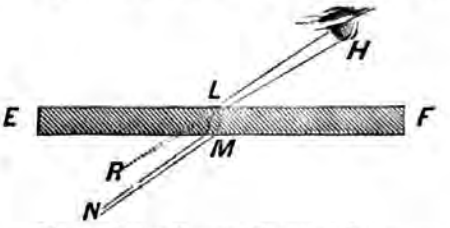


Fig. 3.—Light Passing Through Glass.

ture. Through a hole or narrow slit in the window-shutter we allow the ray of light to enter. We place a prism in its path, with the edge horizontal, and also in such position that the beam may enter it obliquely by one of its surfaces, and, passing through, may fall on a screen on the opposite wall. Now, see what shape our beam of light has taken. Instead of the white spot of light which entered the room, we see a band of colors which remind us strongly of the rainbow; the lowest color will be red, next above orange, passing by imperceptible gradations to yellow, and afterwards green, which then passes through the shades of greenish blue till it becomes a pure blue, then indigo, and finally ends with a violet color. This band of colors is called the *solar spectrum*. From this and from other experiments we learn that some of the rays of which this bundle of white light is composed may be refracted or bent more than others, or, as it was stated by Newton two hundred years ago, "Lights which differ in color differ in refrangibility."

We shall clinch all this argument by one more experiment. Place in the path of the colored beam, before it strikes the screen, another prism placed in a contrary direction; in a moment we recover our former ray of white light; for the second prism exactly neutralizes the effect caused by the first, and the ray proceeds as if nothing had happened.

So far, Sir Isaac Newton has been our guide and companion. But here he fails us.

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As, when you are walking through some old castle or palace in Europe, an attendant leads you through two or three suites of apartments, and then hands you over to another, so we have traversed all the ground in this palace of science over which Newton may be our *cicerone*, and more modern men must now direct us. It is very wonderful that the mighty mind of Newton came so very near discovering all the marvels of the "light-sifter," and yet failed, and that only through a slight defect in the construction of his apparatus. He passed the beam of light through a circular hole instead of through a narrow slit, and this mistake was all that hindered him from discoveries as marvelous as any others he made.

In 1802, Dr. Wollaston passed the ray of light through a slit, and opened the way for a revolution in our theories of light, and for immense strides in astronomy and other sciences. When Newton examined the *solar spectrum*, he saw no break in its light; one color flowed into another all the way from red to violet. But, when Wollaston tried the slit, he found that the *solar spectrum* was really broken by a succession of beautifully fine black lines. These black

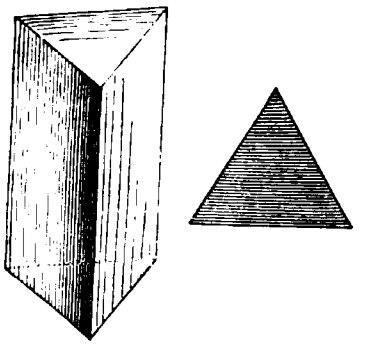


Fig. 4.—Form of a Prism.

lines are the same in number and position in every time and place where a solar spectrum is produced.

In 1814, a German, named Frauenhofer, actually made a map of these lines to the number of five hundred and seventy-six. He then imprisoned a ray of light from the stars, passed it through his prism, and made the important discovery that the black lines in the stellar spectrum were very different in number and position from those in the solar spectrum. Since then, other close observers have worked at these dark lines in the solar spectrum, and have drawn most beautiful and elaborate maps, showing at least two thousand lines of various thicknesses.

In 1830 an important improvement was made in the apparatus of the "light-sifter," or as we may now call it, "the spectroscope." A lens was introduced in front of the prism, so arranged that the slit was in the focus of

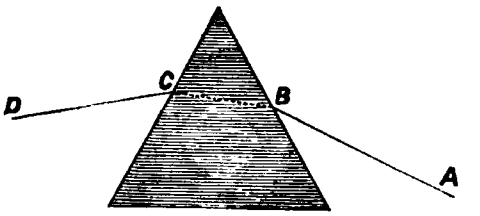


Fig. 5.—Deviation of a Luminous Ray by a Prism.

the lens. Then, in order that the instrument may be used at any time of day, all light except that under examination must be excluded from the prism, and, therefore, the slit, lens, and prism are enclosed in a tube, or, if the prism be too large, the latter is fitted with a separate cover. Further, as the spectrum on emerging from the prism is but little longer than the width of the slit, and only becomes of same length as the distance from the prism increases, a telescope is introduced in order that the eye, though at but a small distance from the prism, may see the spectrum of a sufficiently large size. Every spectroscope, then, consists of an adjustable slit, a lens, a prism, and a telescope. I may add, that its value is greatly increased by using, not one, but several prisms. And now we come to the

APPLICATION OF THE SPECTROSCOPE.

What is the use of all this machinery, and what the practical result of these weird discoveries? In dealing with these questions I shall consider the spectroscope first in its application to terrestrial bodies, and secondly to celestial.

If, by means of an electric lamp, I heat a piece of carbon to an intense heat, the spectrum that it casts will be quite continuous from end to end—that is, there will be no

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gaps or black or bright lines mixed in with the colors, such as we saw in the solar spectrum. All other solid or liquid bodies give a similar spectrum, so that we may consider it a rule that solid or liquid bodies, when heated to a vivid incandescence, give a continuous spectrum. Very different spectra are obtained when the source of light is not an incandescent solid or liquid body, but a vapor or gas in a glowing state. Instead of a continuous succession of colors, the spectrum then exhibits a series of distinct bright-colored bands, separated one from another by dark spaces.

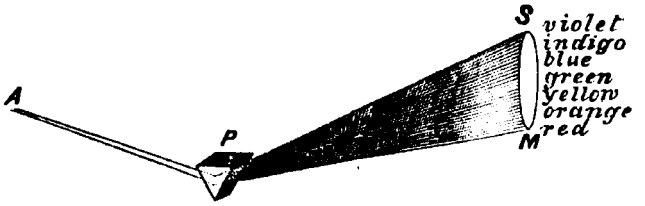


Fig. 6.—Spectrum produced by a Prism.

But the spectrum marks many other distinctions besides these. Different substances give different spectra, or arrangement of colors and dark lines, and so, by the appearance of the spectrum, we can tell the presence of the different substances which are burning. For instance, the spectrum of common salt—a substance found in almost everything—is a brilliant yellow line upon an almost black background. Nitrogen gives all the colors, but with about one hundred black lines, which have been carefully mapped out. Hydrogen shows three bands—violet, blue, and red—upon a black background, with some very faint green and orange, and so on through all the elements.

Besides this, spectrum analysis, by telling us many secrets of the physical condition of gases and vapors, has made almost a new science of chemistry. By this method of research we can determine the most minute quantities of substances. Take the smallest particle of salt you can possibly see even with an ordinary magnifying glass; let it dissolve in the oil of an ordinary kerosene lamp, and, if we can make a spectrum of the light of that lamp, that spectrum will tell us of the presence of that microscopic particle of salt! Lithium is an element whose existence was not known, except in small quantities and in only three or four substances, till the spectroscope revealed it. The six-millionth part of a grain of this can be detected, and this substance—so long almost unknown to alchemists and chemists—is now known, thanks to the spectroscope, to exist almost everywhere, in many solids, in ocean-water, and in meteoric stones.

In 1860, Bunsen happened to be examining with a spectroscope the result of one of his analyses of the waters of a German spring, and he saw some new lines. Having faith in his instrument, he evaporated no less than forty-four tons of the water of this spring, and out of these forty-four tons he got about two hundred grains of what turned out to be a new metal, which he called cæsium. In a somewhat similar way the metal thalluim was discovered, now extensively used in the manufacture of fireworks. I may mention here that the French Academy tried hard to rob Mr. Crookes, F.R.S., of the honor of this discovery, even as they had treated Mr. Adams, the young Cambridge student, *anent* his discovery of Neptune.

Here is another useful and beautiful application of the spectroscope. In the Bessemer process, five tons of cast-iron are turned into cast-steel in twenty minutes. Steel is merely iron deprived of its carbon; so the process simply consists of getting rid of the carbon. This process is such a delicate one that a mistake of ten seconds either



Fig. 7.—Neutralizing of Dispersion.

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way spoils the whole five tons which are being operated upon. The heat from the incandescent iron is so intense, that the vapor of the different substances mixed with it casts a spectrum. At first the spectrum of carbon is quite visible; but at the right moment that spectrum disappears, and the work is completed without any danger of over or under-doing.

Dr. Bence Jones wished to discover how rapidly lithium, when admitted into the body, would become absorbed into every part. It would be rather inconvenient to resolve a human being into vapor for such a purpose, but he administered some lithium to guinea-pigs, burned the ashes of their different parts, and examined the spectra with satisfactory results.

Now we come to the application of spectrum analysis to the heavenly bodies. We must first define another law of the spectrum. It is as follows: Gases and vapors, when relatively cool, absorb those rays which they themselves emit when incandescent. For instance, if we have a continuous spectrum falling on a screen, and interpose a piece of smoked glass, you will find that the light will be cut off and the spectrum deadened throughout its entire length. This smoked glass, then, has the faculty of keeping back the differently-colored rays of light—red, yellow, blue, and so on—and is an instance of *general* absorption. Now remove the smoked glass, and interpose a piece of red glass; it cuts off nearly all the light except the red; or, introduce a piece of blue glass, and it cuts off all except the blue. These latter are instances of *selective* absorption. The practical application of this is that chemists and astronomers can detect different substances by their absorption. For instance, by this power of absorption, a blood-spot so small that it contains only one-thousandth part of a grain, is perfectly easy of detection, and may be recognized even after a period of fifty years.

Now we turn our spectroscope to the sun, and apply this law. We quickly find that his atmosphere contains vapors of sodium, iron, calcium, magnesium, lead, gold, and other metals, and probably copper and zinc. There is, then, an absolute similarity of substance between the sun and the earth, and this suggests a likeness in all the orbs that compose the system. If the sun had displayed a chemical composition wholly unlike ours, we should have had little reason to suppose that any of the planets had a structure similar to our earth; but, having proved an identity between the elements of the sun and the earth, we may fairly infer a similarity in every dependent planet of the system. On the earth, iron and gold are applied by an intellectual being to a thousand useful purposes, and contribute to a refined and exalted civilization; and are we not led to ask, what other purposes can they be meant ultimately to serve in Venus or in Jupiter?

When the sun is totally eclipsed, it has long been known that brilliant red protuberances bead the black edge of the moon, and that beyond her disk, for enormous distances, a brilliant silvery haze is ever present. It was to discover the true nature of these phenomena that expeditions from almost every civilized people have been equipped to observe recent eclipses. The results are of great importance. The spectroscope shows the solar prominences to be up-rushing masses of *hydrogen* in flames. For an average depth of from five thousand to seven thousand miles from the sun's edge it envelops his globe as a seething mass, called the *sierra*, while the prominences proper are gigantic local accumulations of the same matter impelled outward in volumes of erupted flame. The spectroscope shows the entire rolling, twisting, seething mass of flaming gas as perfectly as the flames which issue from the furnace of a smelting-house can be seen at night.

On September 7, 1871, Professor Young observed a massive cloud of hydrogen on the sun's edge. It was one hundred thousand miles long, and its upper surface fifty thousand miles from the sun's surface. It was supported on pillars of blazing hydrogen. Some business took him away from the observation for half an hour. On his return, he saw that "the whole thing had been literally blown to shreds by some inconceivable uprush from beneath. . . . In place of the quiet cloud," the whole region "was filled with flying *débris*," some

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of which had already reached one hundred thousand miles of distance; in ten minutes the uppermost area was two hundred and ten thousand miles from the sun.

We now turn our instrument toward the moon. Since the planets and their satellites do not emit any light of their own, but shine only by the reflected light of the sun (with the possible exception of Jupiter, Uranus, and Neptune), their spectra are the same as the solar spectrum, and any differences that may be perceived can arise only from the changes the sunlight may undergo by reflection from the surfaces of these bodies, or by its passage through their atmospheres. The spectrum of the moon shows no special absorption lines, so we must believe that our satellite has no atmosphere. The spectra of Venus, Mars, Jupiter, and Saturn afford evidence of an atmosphere containing aqueous vapor, and Jupiter exhibits some signs of elements of which we know nothing on earth, and it is possible also that the atmosphere of Saturn may contain gases or vapors which do not exist in that of our earth. The spectra of Uranus and Neptune contains some strange lines concerning which nothing very definite is as yet determined.

Although the fixed stars are immensely more remote and less conspicuous in brightness than the moon and the planets, yet, from the fact of their being original sources of light, they furnish us with fuller indications of their nature. The deepest thinkers in all ages have joined with the little child in the sentiment:

> "Twinkle, twinkle, little star,
> How I wonder who you are."

The telescope has been appealed to, but in vain; for, in the largest instruments, the stars never appear more than as brilliant points. But our "light-sifter" has won great triumphs of knowledge in this field of reasearch. The spectra of many of the fixed stars have been examined, and all of them show substances common to the earth and sun, as sodium, magnesium, hydrogen, calcium, iron, antimony, and mercury. It follows, then, that they are veritable suns, and a general likeness in structure points to an universal likeness of purpose. All analogy suggests to our sun and these others a similar utilization.

It was suspected that the whole heaven of stars was drifting in many directions. It was found that five of the seven bright stars of the Great Bear, sometimes called the Dipper, or the Plow, were drifting in a common direction, and with uniform velocity. The spectroscope was called in to confirm or upset these surmises. Let me briefly indicate the principle which makes the spectroscope available in this stupendous experiment. It is already seen that the pitch of a musical note depends on the number of vibrations which the ear receives in a given time; and rises in proportion as the number of vibrations reaching the ear in a second increases; falling in proportion as they are fewer. Now, the greater the area over which waves of sound proceed, the more they expand; and, therefore, the fewer enter the ear. So the pitch of a note will depend partly on the distance from which the sound has come. Thus, the pitch of a locomotive-whistle a mile away is comparatively low; but, as it rapidly advances toward us, the pitch rises until it reaches its maximum in passing us, and then falls again. The heightening of the pitch, then, depends upon the crowding together of the sound-waves by the advance of the source from which the waves proceed. It is thus with light-waves. The violet-light at one end of the spectrum produces the greatest number of vibrations in a given time; the red the least. Let the body from which such light proceeds rapidly approach us, and of necessity the light vibrations will be driven together—shortened—but the shortest and most rapid vibrations belong to the violet end; and, therefore, if a body with, say burning sodium or hydrogen in it, be approaching us, its lines will be bent toward the violet end of the spectrum. If it be receding from us, the vibrations will widen out—be fewer, less rapid, and thus be bent toward the red. Huggins, a most eminent spectroscopist, applied this principle first to Sirius, the brightest star in our heavens. He made the hydrogen line of its spectrum the test, and found that it suffered displacement toward the red end of the

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spectrum; therefore it is receding from us, and the rate of recession was proved to be twenty-six miles in a second. The same test was applied with perfect success to the five stars in the Great Bear.

This wonderful instrument, still doubtless only in the infancy of its use, has been applied to nebulæ, to comets, and even to meteors and shooting-stars, and is rapidly demonstrating identity of physical structure throughout the universe — unity of force, unity of aim, and the incessant and sublime activity of creation.

GEORGE C. JONES, A.M.

THE ART OF CONVERSING.

THE art of conversing is a truly difficult one, as it consists not in fluency, or in learning, or yet in both combined. Conversation should have dignity without the least pomposity; information, without any pedantry; ease, with no alloy of vulgarity; deliberation, without slowness; continuity, without monopoly; difference, without assertion; contradiction, without a shadow of dogmatism; beauty of language, without studied culling of flowers; conciseness, without arid sententiousness; wit, without gall; humor, without immodest equivoque; and perfect suitableness as to time, place, persons, and subjects.

Abbé Corria has left us a superior example that many might profit by. He spoke things rather than words; much, but with due intervals for others; with point, but never with unjust severity; succinctly, but not with aphoristic precision; of himself, but never with egotism; was narrative, yet without tediousness; anecdotal, but with quickness and without episodes; was humorous, yet leaving to others the enjoyment of the laugh, and still without any affected sobriety in himself. And should some of the company less refined than himself prolong the gaiety occasioned by his anecdote beyond the sympathy of others, he knew how to cut it short at the exact moment, and yet without offence, and even by continuing the enjoyment, but in some other channel.

Conversation is somewhat aided by the genius of the language used. French colloquial, as well as epistolary talent, is proverbial; and though these lively people are accused of frivolity, we think it is with little justice. Contrasting them with other nations it has been said, *que les autres nations ne savent que disserter et dissenter*—other nations only know how to dissert and to dissent.

In this valuable art the English exceed, perhaps, all others, in good breeding, in gentleness, and a subdued manner; but are deficient in fluency, grace, and joyousness. The Americans are voluble, argumentative, discursive, and rapid beyond all known talkers; but they are boisterous, inelegant, monopolizing, and without rule. The *genus* is here pointed at; numerous exceptions, of course, exist. In Pompius we find an example of his class. He is a man of observation, of numerous and varied pursuits, of some irregular reading, very industrious, extremely practical, and a true son of America; converting all things into gold, which he spends with wonderful extravagance, little taste, and less discrimination. He converses, of course, *de omnibus;* is fluent, uses good language, not uniformly well pronounced and grammatical; speaks in a stream; often harangues; is very loud; leaves few intervals wherein others may differ or assent; uses numerous expletives and occasional exclamations; has a good deal of humor, but is himself quite too conscious of it; has many just opinions, but is too dogmatical; is jocose, but not always refined; argues his own side, but never responsively to his antagonists; and makes it a point to come off the victor, though more than twice vanquished!

Americaness is sprightly, has much ethereal, but frail beauty; is not deficient in the polite information of fashionable life; is self-possessed, and talks with remarkable fluency. But her sister, Simperina, is heard much beyond the coterie in which she happens to be; is too familiar with the perishable gossip of the day—reluctant to pass to other

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themes; blends a little too much laughter with her words; whispers occasionally to her female companions, and with some significant and tantalizing looks. She is not happy in her by-play when others have the parole; and when she has it, it does not give to her eye and manner that intellectual and eloquent expression which charms attention, and is so often found in the more intelligent and polished women of the old country.

In fine, conversation is the most faithful representative of a nation's progress in civilization and refinement, and can scarcely be taught by books, but is the result rather of much association with good society, and of no little reading in many departments of human knowledge. MASSEUR DEMERESQUE.

HERMANN LUDWIG HELMHOLTZ,

THE EMINENT GERMAN PHYSIOLOGIST.

THE portrait before us is an admirable specimen of constitutional vitality and vigor. A person so organized has an abundance of warm blood, zeal, and ardor, and that active energy which amounts to enthusiasm. The head is broad from ear to ear, indicating much courage, force, earnestness, and positiveness; and it is long from the ear forward; in other words, massive in the forehead, showing talent, especially for facts and things. The perceptive organs, being paramount, give the tendency to observation, to gain a knowledge of the external world, and also impress a desire for practical science.

He is a natural fact-gatherer, observing all the phenomena and recognizing the relations of facts to things, and of all material data to ideas. We do not think him to be constitutionally a speculator; he does not dream out a theory and afterward look for facts to supplement it, but builds up a theory as a bird builds a nest, straw by straw. He has remarkable constructive talent, hence he should be ingenious in mechanics and in studying out all complications and combinations. His language qualifies him to express himself with ease and fluency, and he is well adapted to do the literary work that belongs to his pursuit. He can tell his thoughts, explain his ideas, and describe whatever he knows. He should be known for power to gather knowledge, but especially for power to remember, combine, and classify.

He has considerable imagination, hence the hope of something higher and better; and always keeps himself on the alert for new truth and advanced ideas. He appears to have large Acquisitiveness, and is doubtless inclined to study economy and appreciate profit and loss in all its phases. As an inventor, he would have in view the saving of money, of strength, labor and health, and whatever is valuable. His top-head is high, but not very broad. We infer from the portrait large Firmness, giving perseverance; large Hope, giving a tendency to anticipate, look upward and forward; Veneration enough to give respect for whatever is venerable. In business, in literature, everywhere, such an organization will be practical, thorough, earnest, ever ready to learn or to communicate knowledge. He is a live man, dealing with living subjects, and in any position would be an earnest factor in all that was interesting or profitable to himself and others. It is such men as he who push the world ahead; who fill up life with effort, and who generally succeed.

Conspicuous among observers and experimenters in modern physiological science, stands Hermann Ludwig Helmholtz. He was born in Potsdam, Prussia, on the 31st of

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August, 1821; was the son of an instructor at the gymnasium of that city, and received his early mental training under the direction of his father; entering the gymnasium at an early age, and completing his course of study therein before he had reached his seventeenth year. Then he was entered at the Royal Military School of Berlin, where he studied medicine.



In 1843 he was appointed assistant surgeon in connection with the Charity Hospital of that city, and afterward given a military position at Potsdam. Here, in 1847, he prepared his first volume for publication, on "The Conservation of Force." Its appearance attracted considerable attention, and gave him high rank as a thinker and investigator in natural science.

In 1848 he was made assistant professor in the Anatomical Museum of Berlin, which was at this time under the direction of the renowned anatomist, Johannes Müller. The

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associations here were of no small advantage to Helmholtz, and he studied earnestly while exercising the vocation of an instructor. The following year he was appointed to the chair of physiology at the University of Königsberg, in the place of Ernst Brückes.

From that time his most important discoveries and inventions which relate to physiology and therapeutics date.

One of the most noteworthy of these, made in 1851, was for the benefit of numerous sufferers from eye disease, and consists of an eye mirror, for the examination of the retina of the eye in living beings. This alone, Von Graefe wrote, should crown, with imperishable laurels, the head of the inventor. It is said that he was led to this invention by reflecting on the circumstance, that while it is impossible during the daytime to see clearly into a room on the opposite side of the street, it can, however, be done at night when the room is illuminated, and also during the day by throwing into it sunlight reflected by a mirror or sun-glass. He describes this invention in the volume entitled "On the Opthalmoscope," published in 1851.

Helmholtz furnished other important suggestions and methods of treatment in relation to the eye, in his work entitled "Manual of the Physiological Optic," which appeared in 1856, and now forms a part of the cyclopedia of natural philosophy, edited by Prof. Karsten, in Rostock. In this work, Helmholtz not only gives us the results of his own investigations, but also a history of optics more complete than was ever presented before in a single treatise. He discusses therein the newly-developed doctrine of sight perception, and furnishes data with reference to the analysis and appreciation of colors. A volume on the transmission of nervous impressions, is another valuable accession to physiological science, which shows that he is not only able, as an experimenter, but also a master in the application of mathematics to physiology.

In 1855 Helmholtz was called to the University of Bonn, as professor of physiology and anatomy. Here he published his first investigations in acoustic physiology, and laid the foundation for the work through which his name has become famous in the science of the world. A treatise on this subject was published in 1862; a second and enlarged edition followed in 1865. He invented a method of analyzing sound, which has led to the acquirement of facts previously unthought of, and to the explanation of the principles governing in musical harmonies. His invention essentially consists in the use of hollow bodies called resonators, the air in which vibrates in the presence of a previously determined sound. Helmholtz discovered that the difference of quality in the tones of different musical instruments resides in the different composition of these tones. He also discovered the acoustic cause of the vowel sounds of human speech, and not only analyzed them, but also produced them artificially with tuning-forks.

Important results have been achieved by Helmholtz in his study of atmospheric vibration; of the movement of electricity in bad conductors; of the motion of light in its refraction in different media. From 1865 to 1871, he was professor of physiology at Heidelburg. Since 1871 he has occupied the place of the celebrated Magnus, who died on the 4th of July, 1870, as professor of physical science in the University of Berlin.

He has been in rather close accord with Prof. Tyndall, of England, on account, doubtless, of a similarity of investigation. In connection with Wiedemann, he prepared an excellent translation, into German, of the works and lectures of that eminent English naturalist. He also has assisted in the translation of Sir William Thompson's and Mr. Tait's "Manual of Theoretical Physiology." This work Helmholtz pronounces one of the most important that has been published on the correlation of natural forces.

He has, from the first, endeavored to popularize science so that the masses shall reap the fruit of all that is true and useful in its progress. With this aim, he has frequently appeared before the public as a lecturer at Königsburg, Bonn, Heidelburg, and Berlin. Among the subjects thus considered, may be specified—The Conservation of Force,

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The Nature of Human Perception; Goethe's Treatise on Natural Philosophy; Du Bois Raymond's Investigations on Animal Electricity; The Physiological Effects of Musical Harmony; The Progress in the Theories of Sight; Optical Vision and Painting; Ice and Glaciers. It is Helmholtz's ability and readiness to give to the public at large the results of his own researches that have contributed largely to his fame. Many of his lectures have been published, some finding their way into English publications.

Perhaps the reader will be able to obtain some notion of his manner from the following extract from his oration on Gustave Magnus, which was delivered on the 6th of July, 1871, before the Berlin Academy of Science: "If we look over the series of sciences, with reference to the mode in which their conclusions are derived, we will notice a general difference between the natural and the mental sciences. The natural sciences are, in most cases, able to carry their inductions to sharply-defined, general laws or rules; while the mental sciences have to deal chiefly with judgments proceeding from psychological perception." After presenting a view of mathematical study, and showing how absolute certainty can be arrived at through that, he proceeds: "Knowledge alone is not the design and object of men on earth. Although science awakens and cultivates the most subtle forces of the human mind, yet he who studies only to know, will not find the true object of his existence in this world. * * * *

"A thorough knowledge of the operation of the natural and mental forces, is all that scientists can attempt to acquire. The student must feel himself rewarded by the pleasure found in hailing new discoveries, new victories of human effort and human thought, over opposing material forces. He can find pleasure in the beauty which a well-arranged department of knowledge exhibits, in the coherence of relation between its different parts, perceiving how one part grows out of, or is developed by, others, and he must find high enjoyment in the consciousness of having contributed to the growing chapter of general information; in thus assisting to manifest the supremacy of man over the forces and material of nature."

In 1870 the French Academy admitted him to its foreign membership, after some discussion, in the course of which a member said: "You will place yourself in the worse light before the world if, for any reason, you refuse to admit Helmholtz, the foremost and greatest naturalist of this age."

HORSEBACK RIDING VS. CONSUMPTION.

A FEW months ago our attention was called to the death of Mr. Francis P. Blair, Sr., at the age of ninety years or more, and we were reminded of the fact that when but twenty years old, he was pronounced by his physician to be an incurable consumptive. All medicaments known to the faculty had been tried, and proved of no virtue. Study, overwork, or inherited consumptive tendencies, had given him a cough, which was causing him rapidly to waste away. He was finally advised to try horseback exercise, and concluded to put the advice in practice. When he began he had to be lifted to his horse, as he has had to be for the last ten years, but he kept on riding then, as he kept on until near his death. All these years those who passed by his residence at Silver Springs, could every morning see two horses saddled near the old man's door. One was for the young woman, now come to be more than threescore years and ten, whose runaway accident, so many years ago, resulted in the purchase of Silver Spring farm. The other was for Mr. Blair himself. An immense stone, ascended by easy steps, constituted the mounting block, from which faithful body-servants assisted the aged feet to the scarcely less aged stirrups. The old gentleman and lady started off with as much pleasure, though scarcely with the same vigor as they did half a century ago. They always rode for two hours at a comfortable, health-giving, old-folks' gait. Moralists and physicists can find a good deal for reflection, and draw a very wholesome lesson for prudent living, from the course of life of the Blair family at Silver Springs, and one is —as certainly demonstrated in Mr. Blair's case—that there is more health in horseback rides than in all drugs.

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True philosophy is a revelation of the Divine will manifested in creation: it harmonizes with all truth, and can not with impunity be neglected.

HOW TO TEACH;

OR,

PHRENOLOGY IN THE SCHOOL-ROOM AND THE FAMILY.

QUAKER MODE OF TRAINING.

IF persons doubt the influence of harsh or mild treatment on the future character of the child, we would refer them to the Quaker mode of training, and to its results on the character of their children. They govern their own tempers better than most others; they are firm, but kind, in the treatment of their children, and the result is, they grow up to manhood with quiet, unruffled dispositions, quite capable of self-control; and though they are disposed to debate and contend for that which they regard as the truth, they do not wrangle and fight as do others. Whereas, on the contrary, a man who has been trained in the ordinary way becomes angry and intemperate in his words and actions, and this excites no special remark and awakens no surprise. But let the Quaker become wrathy and rough, like other men, and it would be such a strange fact that it would be noticed with amazement by everybody.

ILLUSTRATIVE FACTS.

To illustrate this point, we would invite attention to a few facts and inferences. Many years ago I examined, in Massachusetts, the head of a little girl of four, and found excessive Combativeness and Destructiveness. On referring to the heads of the father, mother, and a younger child, I found that none of them had the organs in more than a medium degree. This excited my surprise, that none of the family except the little girl had the organ large. I suggested to the parents that the child had been much irritated in her training to induce thus early so large a development of these organs.

THE WAY IT HAPPENED.

The mother replied: "That is true, and I will explain the reason. I had so often seen, while teaching school, such a laxity of parental discipline, that I determined, if I ever had children, I would begin with them in season and make them go straight. Accordingly, this girl being my first child, I began early to make her toe the mark, and I used to train and whip her for every little offence or neglect. She has become very fretful, peevish, and violent in temper, so that now whipping only makes her worse. A few days ago I lost my temper and gave her a severe whipping, and the moment I got through with her she seized the fire-tongs, and with a severe blow broke the back of her pet kitten that was sitting by the fire. As soon as her anger had subsided, she mourned piteously for the death of her pet. She is a very bad child when she is angry, and I really do not know what I shall do with her. But I have taken a different course with my other one, and she is easily

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managed, though her natural disposition is no more amiable than that of the older one was at first."

A WISE TEACHER—A BOY SAVED.

Another instance was related to me by a teacher in the State of Connecticut. A boy fifteen years old had been flogged and harshly treated at home and at school until he had lost his self-respect, and became utterly reckless of his character. So bad, indeed, was he, that the trustees in his native district had caused his expulsion from the public school. His father, almost in despair, requested a teacher in the neighboring district, who was known for his great success in managing the worst of boys, to try his son. On entering the school, the teacher lent him an interesting book, telling him he might read it the first day, and not commence to study until he had become acquainted with the new place. That night he told the boy he thought him capable of becoming one of the best scholars in the school, and that if he would try to excel, he should have every opportunity afforded him, which would enable him to disappoint the expectations of everybody. The poor outcast opened his eyes with astonishment, amazed that any one should speak kindly to and be interested in him. For several weeks he seemed to forget his wayward habits, and devoted his mind to study with remarkable success, to the surprise of all who knew his history. One day he became very angry because the teacher would not aid him, at the moment, in solving a problem. He laid down his books and sat nursing his wrath, and when the teacher found leisure and offered to aid him, he tartly replied, "I do not wish it." When the school was closed the boy was requested to remain, doubtless expecting a flogging, as in former times; but what was his astonishment when the teacher sat down by his side and said, "Thomas, I thought you were willing, and meant to be a good boy, and I had given you a good name among all your acquaintances, which seemed to give them great joy. Must I now go and tell them that all my hopes for you are crushed, and that all my kindness toward, and efforts to help you, are lost?" Thomas wept under this appeal, for he had expected the whip or expulsion from school; and from that hour his reformation was confirmed. After he had found that one, at least, "cared for his soul," he became an excellent scholar, and was known for exemplary conduct, and a more worthy man than he now is can not be found in that neighborhood. He regards his teacher as his saviour, and dates the turning point of his life and character to that hour with the teacher at the close of the school on that eventful day.

Now, suppose the teacher had allowed his anger to be provoked by the boy's sullen insolence, and he had scolded and whipped him, as others had done, instead of arousing the boy's benevolence and friendship, and awakening his self-respect and regard for the good opinion of others, he would have gone from that school but an outcast and an Ishmael.

TRUE POLICY, SOUND PHILOSOPHY.

"A soft answer turneth away wrath, but grievous words stir up strife," is a proverb full of truth and sound philosophy, and embodies the true theory of training Combativeness and Destructiveness. Never allow yourself to become angry with a person whose anger you would control. No person can govern others who can not govern himself, because his self-control is the only means of obtaining a lasting control over others. An irritable child may have inherited this quality from an equally irritable mother, and is to be

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pitied more than blamed for this state of mind. How ill-adapted is such a mother, who will not control her anger, to manage such a child! Her words are to him like fire on a blister. With such a case the treatment should be of a most kind and gentle character; let soothing tones and amiable language be addressed to it, and this passion will subside; at least it will not be cultivated and increased in strength and activity. Then a calm and efficient rebuke may be made to its moral, intellectual, and social nature which would fortify these superior elements against the future inroads of the rebellious propensities, so that the next mental mutiny may be quelled by the proper action of the child's faculties without parental assistance.

HABIT OF SELF-CONTROL.

Thus, by awakening the restraining faculties, we awaken in the child the power, and establish the habit of self-control. We do not mean that one wise and judicious treatment of a child will produce its reformation. It may be necessary to give "line upon line, and precept upon precept." Awkward habits are not reformed in a day. When the rustic enters society and tries to take on all its customs, which, to him, are strange and mysterious, he does not become in a year a polished gentleman, though he is all the time working toward it; so the child, having inherited a fiery and quarrelsome spirit might not, even in a Quaker family, in a year cease to show traces of his native pugnacity. The parent and the teacher may work with faith and hope till ultimately they will reap the harvest. If all the reform which seems desirable does not soon appear, or we seem to secure only half the success we seek and hope for, remember that our efforts modify the character and make it less vicious and turbulent than it might have been. When a heavy train is descending a steep grade, the brakemen, with their best efforts, may be able only to retard the speed and keep it at a safe point. A driver might desire to stop a fiery horse, but his strength is only sufficient to keep the steed in the road, and prevent him from running away with the carriage and its precious freight. Shall he not do his best because he may not be able to do all he would? So, teachers and mothers, we beseech you, keep hold of the headstrong boy or girl, and check their wrong tendency if you can not at once stop or reverse it.

TWO MODES OF MANAGING THE ANGRY.

There are two excellent modes of managing children when excited by anger. When the child is young, how easy it is to call out something interesting to his other faculties! When older, how very easy it is to relate a story, made up for the occasion, if need be, in which the child's anger may be shown up in such a light as to make it appear improper or even ridiculous. We have seen a child change in one minute from rage to laughter under the ingenious treatment of an amiable sister or judicious mother. Another method is to cool the rage of anger by pouring cold water upon the refractory child. In some desperate cases this has been found to work like a charm. A child sometimes gets angry and throws itself upon the floor, and screams, and kicks, and almost goes into a fit of apoplexy; then a stream of cold water poured upon it, thoroughly drenching it, will have a wonderful effect. This must be done in all kindness, calmness, and candor, as you would administer medicine; and while it does not require, on the part of the parent, severity, as it would to conquer with the whip, it leaves no ill effect on the mind of the subject. When the child is thus restored to its balance, it is easy to reason

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with it through its intellect, or reprove it through the moral feelings, or awaken the affection, the sympathy, or the dignity of the delinquent in reprehension of its past conduct.

"NO TIME TO TRY NEW METHODS."

Are we told that mothers with large families and much work to do can not take the time to try modern notions and scientific methods of training their children? They must speak sharply and be obeyed at once, or by an impending blow make the delinquent desist from wrong doing or hasten to fulfil duty. Not a few believe in this method, for many practice it; but children so trained will wrangle with each other, and be always in some broil, and they will seem to need ten times as much effort on the part of the mother to keep them regulated as would be the case under wiser and calmer administration. We have known such a family to lose the mother, and in process of time a step-mother would be installed, who fortunately was wise, well-informed, self-regulated, and imbued with the true spirit of strict, but beneficent government; and she soon brought order out of chaos. Like the Connecticut teacher, she astonished the children with a new spirit and new methods, and in less than a year, kindness, courtesy, and good manners prevailed; and some of the relatives of the departed mother fancied there must be some secret severity which had cowed and overawed the children. The children knew better, and evinced their confidence and love by every evidence of gratitude and sincerity, and many years of the most tender and intimate companionship.

As like produces like in nature, so rough and hard treatment of child or horse will arouse corresponding dispositions; and gentle firmness, guided by justice, wisdom, and love, will convert a fractious horse or a petulant and headstrong child to obedience and a modified disposition. Some have unfortunate dispositions, but by kindness and wisdom, even these can be made tolerable, and that is the easiest possible way to get along with them. The harder a mother has to work, and the more children she has to manage, the more important it is to her and her children that she should adopt the wisest and best methods of government. Some have a genius at government and need no aid or advice. Those who do not take easily and naturally to government, may and ought to profit by the suggestions of science.

It may, perhaps, be of service to some parent or teacher to read the following extract from a written description of character, made by me, September, 1876, in the daily course of business, for a boy who was brought to our office by a lady, not his mother, who felt an interest in him, and believed our advice would aid his parents in guiding, and perhaps saving, their capable and somewhat wayward son. Much of the advice is in the direct line of the subject matter of the last few pages; the remainder will find subjects enough for its application.

EXTRACT FROM AN EXAMINATION.

"This boy has a large head for one of his size and age, and it is developed in three or four directions pretty strongly. He has, in the first place, an excitable temperament or constitution, and care should be taken not to rasp and exasperate him. He should be treated with evenness and smoothness, and not insulted, or worried, or fretted. He has so much sensitiveness that we would have him avoid in his food everything that produces irritation, like pepper, mustard, and vinegar, and it would be better for him not to eat sugar, because

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that produces heat and excitement. He should not drink coffee, because that stimulates the brain and disturbs the action of the heart; he should eat plain diet, oatmeal, Graham bread, beef, fish, milk, fruit, and vegetables. He has rather a strong appetite, and might form habits upon it that would be damaging to him and his health. He has large Destructiveness, and that gives him a high temper, and a great deal of what is called grit; and when he gets angry, he does not care much for consequences, and he is inclined to resist everything in the way of severity or opposition. If we had him to manage we would be careful not to get him angry, and especially would we avoid disciplining him by word of censure or by blows while he was angry or excited, but would wait until he got over it, and then if the punishment were calmly administered it might be severe without producing bad effects on him. But the better way is to talk to his sense of honor, character, and reputation, to his sentiment of justice, to his friendship and sympathy, rather than to his selfishness, or his anger, by harsh words or rough treatment. He has Secretiveness rather largely developed, which gives him a desire to conceal that which he thinks it will not be well for him to express, and his Cautiousness is so large that he will sometimes evade the truth through fear of the consequences. Then his love of praise is very strong, and he sometimes will find himself in a position where he will conceal facts to avoid disgrace, or blame, or ridicule. Children often feel sensitive when blamed about subjects which involve disgrace or ridicule, and there is no appeal made to their sense of justice. The thing is not shown to be wrong in itself, only absurd, ridiculous, or out of character, so the child is reproached, instead of being instructed as to the right and wrong; whereas, if the censure were made through Conscientiousness, if the reproach came because the act was wrong in itself instead of being inconvenient to us, and ridiculous and disgraceful to him, it would have a good effect instead of a bad one. If we laugh at the child, and tell him how absurd and ridiculous his conduct has been, and set everybody laughing at him, the result is, he will resolve not to let it be known the next time. Perhaps he does not resolve not to do it, but not be caught at it. If the address were made to his conscience—if the thing done were shown to be wrong in itself—then he would have something in him to reprove him when the proposition or suggestion to do wrong came up the next time.

"This boy can be made self-regulating, but he must be led and not driven; must be treated with courtesy and kindness, and not be reproved in the presence of others; should not be punished until he has had time to think the matter over, and get over the excitement, and not until the parent has ceased to be angry. Sometimes punishment in the way of whipping is not so useful as would be the quiet denial to the child of some favorite pastime or pleasure. If he were told on Monday that, because of some wrong-doing, he will be deprived of the privilege of going out Saturday, he would have time to get sorry before Saturday, and the whole of Saturday to repent; and if he receives nothing but kindness during the day, and is told that the parents are sorry he is not able to have a good time on his leisure day, he will make up his mind the way of the transgressor is hard, and that the next time he will behave himself; and one such treatment as that will last a child a life-time, at least in memory, and perhaps become a

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sample to treat his own children by, thirty years hence. A hard threshing then and there might satisfy parental indignation, and seem to satisfy justice, when, probably, the whipping would only make him reckless, and perhaps more disposed to do wrong the next time.

"Here we find indicated very strong affection, and it can be appealed to, especially by a mother; and here is strong Caution, and its monitions may be made to work in the right direction. Here is a strong love of praise, and it ought to be harnessed to the car of progress, at the right end of it, so that it will pull in the right direction. He has not enough Self-esteem; not quite enough of manly honor about him. He should be taught to respect himself, and that certain things are disgraceful and unmanly; not that they are merely ridiculous, subject to the world's criticism.

"He has Benevolence enough to sympathize with those who come in contact with him, and especially those who are in trouble. If he found that his conduct worried and made his mother sad, he might be induced on that account to amend his course.

"He has a talent for making money, and can work successfully in the direction of trade and commerce. It might be better for him to go into a store than into the ruder forms of labor, because in a store he would learn to suppress some of his feelings and curb his temper, as he might not if he were master of a provoking team. He will have such a sense of the value of property, such a desire to please others and to be popular; will have such a tendency to be friendly and make everybody think well of him, that he will make a good salesman. He has driving energy enough to run a locomotive or a team of mules, but they would not be a means of grace to him. His intellect indicates practical talent, quickness of observation, memory, faculty for figures and for music, and a good memory for details and particulars. His Language is fairly developed. He is more sociable in his spirit than he is free in expression.

"If he can be well-educated, he would do well as a physician; or, if he can be educated commercially, he will do well in business. He might succeed well as a mechanic, especially in something like dentistry; he ought to be where he can use his Destructiveness in surgery or dentistry, or in some energetic occupation. If he were in a store, he would take as many steps as would be necessary. He would run up-stairs after something and be back in a moment. Instead of trying to palm off something that a customer did not quite want, he would say, "I have some up-stairs, I will bring them down." He is industrious, spirited, ambitious, affectionate, thorough, impulsive, practical, and a good reader of character, and if educated, trained, and treated rightly, he will make a good man. But he will always have a little too much ginger in his composition, and ought to associate with those in the future who have not quite enough of that element."

NELSON SIZER.

(To be continued.)

EDUCATIONAL GROWTH IN PENNSYLVANIA.—The increase of education in this State is shown by the following figures, taken from the *Pennsylvania School Journal:*

In 1865 the number of graded schools was 1,743; in 1874 it was 5,586. In 1865 the number of superintendents was 56; in 1874, 86. Monthly salary of male teachers in 1865, $28.13; of female teachers, $12.42; of male teachers in 1874, $42.96; of female teachers, $35.87.

In 1865 the cost of tuition was $2,500,000; in 1874, $4,500,000. The estimated value of schoolhouses in 1865 was about $465,000; in 1874, about $2,000,000.

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PORTRAITS AND HISTORY IN COINS.

No. II.

IN all national coinages there is some sameness in the style of portraits, just as the works of a particular engraver can be recognized by an expert, even though his subjects may be infinitely diversified. Therefore, in the three ancient Greek faces I am about to exhibit, your readers will trace that sort of similarity which the Greek school of artists imparted. Yet there are abundant *differences* among them (dissimilarity in uniformity), enabling us to read mental characteristics, and these I will point out.



Fig. 1.

Our first illustration is that of the portrait of Alexander the Great. The coin is an Attic tetradrachm (silver) struck by Lysimachus, King of Thrace, whose name appears on the reverse side of the piece. This prince, whose devotion to the memory of his old general led to this preference on the honorable side of the coin, received Thrace and the neighboring countries as his share in the grand division of the empire left by Alexander. B.C. 306 he first assumed the title and insignia of royalty. The possession of the rich gold and silver mines of Thrace enabled him to accumulate much treasure; and this explains the abundance of his coins in those two metals in all the great numismatic collections of Europe and America. They are generally remarkable for the beauty of their workmanship. The portrait of Alexander the Great as we have it above, and upon very great numbers of others, is marked by the *horns of Ammon*, to denote that he always claimed descent from that deity. His features are dull, heavy, perhaps bloated, evidently taken from a painting made in the latter years of his life. Upon the reverse of this piece is found an image of the goddess Pallas seated to the left. Her large shield stands by her side. In her right hand is the winged image of Victory, an extremely common coin-attribution among the Romans four centuries later. The legend *(Anglicé)* is "Of King Lysimachus." It is pleasant to imagine the greediness with which the old soldiers of Alexander sought for coins having his likeness in enduring metal. And throughout Macedonia, the people, proud of their kinship, absorbed enormous numbers of these tetradrachms. At one discovery, 30,000 of Alexander's coins were found some twenty years since near Sidon, in Syria. (See Thomson's "*Land and Book.*") There is a monogram and a Greek letter S in the field of this coin, as the reader will perceive.



Fig. 2.

Our next specimen is that of Alexander

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Balas, King of Syria. He gained the throne B.C. 152, and is one of the few reigning monarchs of that country so near to Palestine whose name is found in the Bible. Jonathan Maccabeus was his warm friend, and gave him what support the straitened circumstances of his nation would justify. Alexander married Cleopatra, daughter of Ptolemy VI. of Egypt. But he gave himself up to a course of sloth and self-indulgence, and in B.C. 146 his father-in-law led an army against him, and drove him from the country. He fled to Arabia for safety, but was treacherously murdered there. His son attained the crown afterward under the title of Antiochus VI., whose coin we give further on.

Upon the obverse, or head, of this coin is a singularly handsome face, the portrait of Alexander Balas. Yet there is wanting the gravity and decision we should look for in a king in the stormy days under notice. Handing him over, however, to better physiognomists than myself, we turn to the other side of the piece and find an eagle, the bird of the Macedonian Alexander, and of Jove, to the left. The inscription (*Anglice*) is "Of Alexander the King." The monogram and symbol are those of the city of Tyre, where it was coined. The date (by the Seleucidan era) is found in the three Greek letters equal to 163. Behind the head of the eagle is a palm branch. Under his feet is a rudder, suggesting the maritime fame of old Tyre, so renowned some centuries before.

And here is a most elegant coin, silver, like the other two, representing Antiochus VI., King of Syria, son of the preceding. Like the others, it is an Attic talent or tetradrachm, struck, probably, at Antioch, in the highest style of the Grecian art. The next year after the treacherous murder of his father in Arabia, B.C. 146, this person was brought forward as a claimant to the crown by Tryphon, who had been an officer of his father. Tryphon succeeded in gaining Antioch and a considerable portion of Syria to the cause of the young prince. Jonathan, High Priest of the Jews, contributed greatly to his success, defeating the troops of his opponent at various places, and the throne might have been secured to the youthful claimant but for the treachery of Tryphon himself, who first inveigled Jonathan into his power and murdered him, and then slaying the young king, took the government to himself.

There is something sad to contemplate, even at this distant period, in the history of



Fig. 3.



Fig. 4.

the poor lad, a mere puppet in the hands of a strong, ambitious soldier. Looking at those boyish features, surmounted with a beautiful spiked crown, we may imagine the hand of a loving mother disentangling and counting the ringlets of her darling's hair. The profile resembles that of hundreds of boys whom we have seen; for humanity is ever the same.

The reverse side of the coin presents the favorite device of Castor and Pollux, the *dioscuri* or sons of Jupiter, by Leda. They are galloping to the left with spears in rest, their heads surmounted by the peculiar conical caps, always given them, shaped like the half of an eggshell, and a star above the head of each, their cloaks flying behind them in the wind. The attitude is finely sketched. The legends are (*Anglicé*) "Of King Antiochus, Epiphanes, Dionysius."

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The letters "T r y" represent Tryphon, who adjoined his name to that of his young ward; the numerals represent the year 169 of the Seleucidan era.

As every emblem and device upon a Greek or Roman coin had its plain, simple meaning, let us inquire what was the purpose of thus impressing the group of Castor and Pollux upon this coin. When Tryphon instructed the moneyer at Antioch to impress the *Dioscuri* upon this beautiful tetradrachm, what particular idea did he wish conveyed to the military and the populace who should handle it? Let us imagine a Syrian scribe, into whose hand the new coin had just come, descanting upon it to a group of listeners. He might address them thus:

"This is the face of our new ruler. The radiate crown adjoins him with Apollo, god of the sun. His long, beautiful locks are the glory of his youth. May he live to reign over us until those locks shall turn gray and fall to the earth. These horsemen are the sons of Jove—Optimus, Maximus, the Best and the Greatest. Their mother was Leda, to whom the king of gods overcame in the form of a swan. To these two Anakes (kings) we have dedicated temples and statues. For they protect our ships from tempests; the fires of Jupiter spare our mastheads when the hallowed names of Castor and Pollux are seen painted upon the prow. When the sun goes down over yon blue sea, we see one of these brothers mounting the sky. We know them as Sight and Light. Our children call them Brightness and Joyful. They are the White-horsed phantoms of the day and night. They are the Starry and the Lightful. Favored is he who worships the Dioscuri. The Father will bless those who reverence his Sons. In the constellation of the Twins they glitter in the midnight heavens. They are the Polyduces, the Tyndavides of whom old Homer sang. In taming and managing our Syrian steeds who has success save he who worships Castor? Who has skill in boxing unless his power comes from Pollux? Over their heads we see the gleaming stars; for do they not assist the shipwrecked mariner with their light? Look, oh ye people, upon their gallant forms and be hospitable to the stranger, for these are they who punish the violation of the law of guests."

We have drawn so much upon the imagination of the reader to explain that the coins of the ancient Greeks and Romans were of the character of official bulletins. They were issued, not only to supply the constant demand for currency, but in the absence of newspapers, to communicate national intelligence. When a new prince was installed; when an old prince died; when a child was born; a marriage consummated; a king's journey begun or concluded; a public edifice erected; when a victory was won or a province subdued; when any of the varied incidents important to the interests of ruler or ruled occurred, the same was promptly impressed upon the king's money in the form of a legend, abbreviated according to well-known rules, and within the circle some striking fact was communicated by a *device* derived from the endless and exquisite symbolisms of their mythology. Thus a suit of Greek and Roman coins (totally unlike modern coinage) was "the history of the nation." Each specimen was a chapter, a page, or a paragraph, and when put together by skillful students, we have the whole story!

The *American Association of Numismatists* is formed for the purpose of collecting from all parts of the ancient Greek and Roman dominions the genuine coins in gold, silver, and bronze; in describing them minutely under the strictest lights of numismatic science; and in distributing them to all who would read "the world's debate" by the most reliable lights that history affords. ROBERT MORRIS, LL.D., *Sec'y*.

THE CENSUS OF MASSACHUSETTS FOR 1875, compiled by Mr. Carroll D. Wright, forms a compact volume of 850 or more pages, in which the curiosity-hunter will find many diverting bits of information. From it we learn that the females outnumber the males by 63,146, or only 135 more than their majority in 1865, when the population was 400,000 less than now; and 52,903 of this excess is the surplus of widows above widowers. Of single women and girls over

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single men and boys the surplus is less than 9,000. The widows number in all 73,527, or nearly one-fifth of all the women that have ever been married; while the widowers are but 20,624, or less than one-sixteenth of all the once-married men. Of the inhabitants more than sixty years old (128,636) there is an excess of about 11,500 women, or more than one-twelfth of the whole. That is to say, after the age of sixty the chance of life in Massachusetts is as 70 for a woman to 58½ for a man.

Among the "occupations" reported, there are 4,588 filling the position of mother-in-law in the family, and only 1,676 who hold the comparatively powerless part of father-in-law. The whole number of families being 359,000, the proportion of those with a resident mother-in-law is as one in eighty.

Nine persons out of a million and a quarter call themselves "gamblers," three "hermits," nine "loafers," and 298 "gentlemen." The number of authors is 87, of whom 34 are women; of editors, reporters, and journalists 755, of whom 14 are women. There are more than 9,000 teachers who are women, while only 1,600 are men.

MENTAL DEVELOPMENT IN CRIMINALS.

MR. FREDERICK BRIDGES, the well-known English phrenologist and author, in the course of an article on the case of a murderer who was recently executed in England, makes the following remarks on morbid or abnormal organizations. We copy from the Liverpool *Mercury:*

"It is a very common habit to talk glibly of the sane and the insane, as if the terms were universally understood, and as clear as the difference between sunshine and cloud. The terms are clear enough; but in the things signified there is often a great deal of obscurity, otherwise we should not witness, as we sometimes do, the spectacle of learned people giving evidence on different sides when questions involving the meaning of terms are to be decided. And if this is the case amongst those whose studies have led them to familiarity with these subjects, how can we expect that the public at large, from whom juries are selected, and who are necessarily almost strangers to them, should accept without reluctance or gainsaying the conclusion which would embrace in the category of insanity what they have been accustomed to call by another name, whether it be vice, crime, oddity, eccentricity, impulsiveness, intractableness, wilfulness, cruelty, passion, turpitude, or by whatsoever other name the thing before them may seem to them properly designated? It is a difficult thing to decide in many cases whether mental and moral manifestations in question should be referred to the class of voluntary or involuntary phenomena, and it is sure to come to be a difficult thing, if it is not now so. Indeed, everything that raises a serious question in these days is a difficult thing; and it ought to be. The age of easy things is past. Then if we are surrounded by so many difficult things, we should battle with them with so much more alacrity and determination to wrestle the difficulty of moral insanity, and calmly examine the subject with a view to the solution of the difficulty, not turning our backs upon it with a grin of angry ridicule, as if the foundations of society were going to be uprooted and the floodgates of crime let loose, because an unexpected interpretation may be put upon some notorious phase of character.

"Horace told us long ago that if a painter represented a woman with a horse's neck and a fish's tail, the result would be an unnatural monster, at which all the world would laugh; that in the physical world no such anomaly or incongruity could have a real existence. In the moral, however, the representation would be much less monstrous. Whilst a man's intellectual faculties may be cultivated to give him a respectable place in the ranks as a rational being, by his moral faculties he may approach the level of the lowest brute. The picture may also be reversed, and these two extremes may meet through every grada-

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tion in the relative excellence of the duplicate powers.

"It is a well-established fact that irregularities of disposition arise from two causes—that is, the transmission of an irregular brain-organization from parent to child, and subsequently the effects of accidental circumstances—as bad example, ill-conducted education, injuries of the head, etc. It is precisely from analogous causes that irregular conditions are occasioned in other organs of the body. They are more or less, in all cases, transmitted in an imperfect and unhealthy state; and the subsequent effects of defective physical education or accident aggravate the predisposition to morbid action which was thus originally established. If a child be born with an irregular organization of brain, he comes into the world to the extent of that irregularity mentally or morally defective; and as by subsequent education that irregularity may be reduced or increased, so his mental and moral malady may be aggravated or relieved.



It is only by training all together—the physical, intellectual, and spiritual elements—that the complete man can be formed.

THE NOSE AS A PRESERVER OF HEALTH.

ONE of the most astonishing things to me is, I think, to see how lightly many people regard that trusty sentinel placed upon the human face—namely, the nose. It has one most important office which deserves particular consideration; being, according to its sensitiveness, an advance-guard of the brain to detect danger from poisonous gases, impure air, etc.

It is simply astonishing the number of people who blunder along through life with this sentinel stupefied and inactive, exposing themselves to all manner of diseases through undetected miasmatic exhalations. Many have a chronically *stuffed* nose through their own carelessness; some, I have no doubt, are born with that member dulled by hereditary disease. Others allow it to become so uneducated that it is useless in detecting danger from impure air. These persons can sit in a church or lecture-room, where the air to a more sensitive person is noxious, and quietly fall asleep—thinking they are only drowsy, when they are being poisoned.

To me, whose nose is a constant trouble, (faithful sentinel that it is, I take back that word "trouble,") it is most astonishing the way people treat this picket-guard of the brain.

Last winter my next neighbor had a young lady boarder whose sleeping-room adjoined the family sitting-room. Four persons besides herself occupied that room most of the time. I should preface that this young lady was the child of consumptive parents, and subject to a scrofulous sore throat. The sitting-room was heated by a large coal-stove, and the kitchen opened into it with its odors of cooking from another coal-stove. Rarely, if ever, was a window opened at all through the cold season. And this over-heated, poisoned air was at night let into the young woman's room to *warm* it—say, rather, to poison it.

At the end of three weeks the poor girl was taken seriously ill with malignant scarlatina. A few days after the eldest child of the family, a girl of twelve, who had slept with her, was attacked, and, for the next two weeks, their lives hung by a thread. How I longed to rush to the rescue of those children—longed to tell the parents that they were poisoning them with foul air.

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The room though small had ample means of ventilation from the window and two doors, but these were kept closed, except that connecting with the over-heated sitting-room, and so the poor things struggled along, nearly suffocated, until the doctor himself set open the door into the hall and succeeded in impressing upon the stupid mind of the lady of the house that we *lived* on air. A long illness ensued to both patients, and, had not a good grandmother of the young lady been able to take the care of her during the last weeks of it, she must have died. She was at last taken home in a feeble condition, burdened with a large doctor's bill, as was also the father of the child, too—and all through their culpable ignorance of the laws of health. Perhaps I was wicked, but I could not pity them much; for, in these days of light and knowledge, when health-publications lift up their voice with no uncertain sound, *need* there be such ignorance?

These bedrooms opening into sitting-rooms I do not like. The air is too often contaminated. I think of the poor little infants and children put away to sleep in them—all the fresh, outside air being excluded—and the heated air that has passed through the lungs of the family through the day let in at night for the poor innocents to breathe, and the wonder to me is that one of them survive, and not that so many die annually. How careful ought those obliged to use such rooms be to purify the air of the sitting-room by allowing it to escape and fresh to enter through an opened window or door before allowing any member of the family to breathe it in sleep! But far better would it be for the dormitories to be placed on the other side of the hall; they could then escape the odors of the kitchen and the vitiated air of the sitting-room.

For myself I could not sleep five minutes in a room with the windows and doors closed—in summer or winter; and I look with amazement at those who shut themselves in hot, close rooms to sleep. *Do* the noses of such perform their office? To me it is also a mystery how wives can serenely sit by the side of their "liege lords," while the lovely (?) blue and gilt cuspadore does duty the other side without being nauseated! How pretty young ladies can enjoy the conversation of young men or old whose breath is redolent of tobacco! Much more, how they can allow a lover's lips to touch theirs just after throwing aside his cigar! Mysterious also to me how the housewife can trot in and out of pantry and store-room, and, at last, when she wishes to use fruit stored there, exclaims as she opens the barrel or receptacle—"Why, it is all rotten!" Or, as she cuts a loaf of bread, cry out, in amazement—"It is mouldy!" Why, I wot of a nose that would have detected the *first* indications of rot or mould by the odor. And this same nose is not only valuable to its possessor, but to her family, who are wont to remark that they sleep secure from fear of fire, as "mother's nose would detect the first bit of smoke, and, long before a fire could gain headway, all things would be in *moving* order." Possibly this sense of smell is diseased in mother, for she wakes at the slightest intimation of any unusual odor, or from escaping gas, from the soundest sleep. Once in a while she wishes she could "sleep as do others," but on the whole prefers wide-awake sentinels, whether of armies or individuals.

We like to see a good, generous, clear-cut nose. Napoleon, it is said, selected his officers by their noses, choosing those with large Roman ones, thereby showing his wisdom, for they invariably proved brave. We may not particularly admire a Roman nose on a lady's face, but a good-sized one, with wide-open nostrils, is desirable; for we have observed that small, close nostrils indicate less power to throw off disease through the respiratory organs, and that those having them, die younger than those with large ones.

COUSIN CONSTANCE.

MILK AS AN ABSORBER OF IMPURITY.—"Attention has been called in the daily papers to a practice prevalent in some parts of the country, which appears to illustrate the power possessed by milk of absorbing atmospheric impurities. It is that of placing a saucer of new milk in a larder to preserve meat or game from taint. It is said that not only does it answer that purpose, but

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that the milk, after a few hours, becomes so bad that no animal will touch it."—*London Lancet.*

Many people keep milk in wide basins, thus exposing a large surface to the air. This is the practice with farmers who wish to obtain a good proportion of cream from the milk. But in too many cases the "milk-room" is used as a general pantry, and food of all sorts is placed in it, some remaining until it is too stale to be eaten. But the daily supply of fresh milk, according to the paragraph from the *Lancet*, tends to disinfect the atmosphere of the milk-room and to preserve food from spoiling at the cost of purity to the milk. We have known people of delicate taste to complain of the flavor and odor of milk which was presumably fresh, and which they were certain had been kept in a cool place. The property of milk to absorb foulness offers one explanation of the trouble, and a knowledge of it should be disseminated among all producers and users of milk.

FOOD FOR THE SICK.

IT is no easy matter to restrain the sick or some of them, from practical suicide by eating without an appetite, while the task of restraining friends (?) and officious neighbors is but little less than herculean. In the acute forms of disease—fevers and inflammations—the appetite is wisely and mercifully taken away; indicating that the stomach has no gastric juice, and therefore can not digest food, which, if taken, must either be vomited or remain as an irritant, fermenting and rotting, necessarily aggravating the disease, if not producing other and worse forms of sickness.

If the sick could be allowed to follow their inclinations in this respect, controlled by the appetite, which is really the measure of the wants of the body, indicating more food in cold weather and when over-exercised, and less in hot weather and when the body is unnaturally heated, there would be but little trouble; especially if we would but follow the example of sick brutes, all of which, even the hog, knows too much to eat without an appetite. Instead of a desire for food in the acute forms of disease, there is generally a thirst, a desire, and a positive demand for something to cool the body, and not for food to warm the already over-heated system. And, in the first forms of disease, especially, we may trust the indications of the appetite, always exercising reason and judgment to prevent excess. We drink water simply to slake a thirst, and we should take food to repair the waste of the system and regulate the animal heat as indicated by the appetite, never disregarding the known demands of the appetite, or forcing the stomach to receive food when a loss of it or a nausea clamors for abstinence.

But some of the sick take food from principle—though not conscientious in any other respect—supposing that they must do so as a means of gaining strength, or of "keeping the wind out of the stomach," an idea too ridiculous and false to deserve a moment's consideration, too absurd to be entertained in an enlightened age, since the outer air does not reach the stomach, and would do no special harm if admitted. If "wind" is in the stomach, it is evolved by the rotting of the undigested food forced in the stomach—the product of fermentation, as seen in the over-raised dough. To keep the stomach free from "wind," fast when food is loathed; remembering that if the popular idea is correct, that food must be taken to keep the air out of the stomach, constant eating is required, filling it as fast as it is emptied. Again, the sick will gain strength by fasting more rapidly than by eating without a relish and an appetite, since forcing always tends to retard the return of the appetite. Indeed, most of the popular ideas, especially among the ignorant, are "highly preposterous and totally absurd."

It is safe, therefore, in the first or acute forms of disease, to abstain from food. Drink freely of water—at least in the absence of an appetite, and when thirsty—and to use only the simplest kind of food, easy of digestion, while improving; taking the more substantial kinds after being able to labor—all at regular periods.

J. H. HANAFORD, M.D.

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PURE AIR.

Time was—a long time before Adam had birth—
When animals could not exist upon earth;
The plants then had plenty of light, heat, and food,
But the air wanted power to vitalize blood.

In the time through which this world's mutations have ranged,
The conditions of air have essentially changed;
And the plants which were once so gigantic in size,
Have been dwarf'd down to what we behold with our eyes.

In our coal-mines, extended such depths underground,
The solidified growths of that period are found;
Light and heat were thus stored, on a provident plan,
For the future convenience and comfort of man.

Air now is a fluid all animals breathe,
From the insect above to the worm underneath;
And the deep-swimming fish, far remote from the sky,
Without air in its water would instantly die.

To draw in a full breath is the work of about
Two seconds of time, and the same to breathe out;
But, before it comes back, the air taken in
Has been changed by its contact with blood through the skin.

The skin I now speak of, adapted to line
The inside of the lungs, is a membrane so fine,
To and fro through its texture it suffers to pass
Components of air, by the learned called gas.

Thus, the air in the course of the moment it dwells
Diffused through the lungs, in the millions of cells,
Loosing oxygen gas, in exchange, one may say,
Receives carbonic acid and takes it away.

When people stay long pent up close in a room,
Replacing what oxygen gas they consume
With carbonic, the blood, which requires to be fed
With oxygen, gets the carbonic instead.

Hence, alas! comes the typhus, our deadliest pest,
That steals on its prey while securely at rest;
Hence, chiefly, consumption, that scourge of the lung,
Which so often the human nest robs of its young.

Prevention of fever, beneficent phrase!
How to do it our statesmen seem still in a haze;
If they do mean to do it, I'll tell them a plan—
Prevent poverty, ignorance, crime, if you can.

There will always be very poor people, we know,
But, don't you have to answer for making them so?
To the rights and the duties of labor give heed;
Promote self-reliance; help only in need;

Let the people themselves understand how it comes
That consumption and fever are rife in their homes;
The invisible air makes them clearly discern,
And how they may breathe it in purity learn.

Abandon the fever-nests known in your town,
Give more space in your street-ways by pulling them down;
Purchase acres outside, build where workmen may dwell,
With their children and wives, in a home, not a hell.

For these homes they'll pay rent; but provide, at the charge
Of the public, a building, capacious and large,
Where men may resort for a converse that's sweet,
And the sexes on festive occasions may meet.

But, of all things, let all men have part of each day
For out-of-door exercise, study, and play;
Supply proper means for so using their time,
And you'll keep them in health, and in freedom from crime.

—A. POWER.

A SEMI-TROPICAL ISLAND.

THE invalid, the pleasure-seeker, or the immigrant who takes passage on one of the fine steamers which ply between New York and Florida, will find himself some fine morning in the magnificent harbor of Fernandina, and will first touch the soil of the Land of Flowers on Amelia Island, near the northern end of which is situated the beautiful little town of Fernandina. Here passengers take the cars for Cedar Keys and intermediate places, and the cars or a steamer for Jacksonville, and places on the St. John's River. Few will give a thought, perhaps, to Amelia Island, its pretty town, its

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magnificent beach, its unequalled natural advantages, or its historic associations. It deserves more than a passing thought, and it is for this reason that I purpose to tell the reader something about it.

Amelia Island is a long narrow strip of land, from half a mile to a mile and a half wide, stretching from Cumberland Sound on the north, to Nassau Sound on the south, a distance of about eighteen miles. It is separated from the mainland by Amelia River, a fine, broad stream, navigable throughout its whole length. The beach is one of the finest in the world, stretching without break from one end of the island to the other, and the roar of the breakers may be heard even on the shores of Amelia River.

The harbor of Fernandina is formed by the confluence of Amelia, Bell's, and St. Mary's Rivers, and is entered over a bar with seventeen or eighteen feet of water at ordinary high tide, between the northern point of Amelia Island and the southern point of Cumberland Island. It is capacious enough to shelter all the fleets of the United States, and is defended by Fort Clinch.

Near the northern end of the island is a village called Old Town, which was an old Spanish settlement, and has a history dating back almost as far as that of St. Augustine; and in view, up the river of the same name, is the old and historic town of St. Mary's in Georgia.

Fernandina is a young town of two thousand inhabitants, now slowly recovering from the effects of a disastrous fire which, last winter, destroyed nearly the whole business part of the place. Its destiny is to be to Florida what New York City is to the Eastern States of the Union—the outlet for her productions, and for a large share of those of the other Gulf States and of the West Indies, and the great commercial *entrepôt* of the State. Nature has so ordained it. Man has only to wisely co-operate with her to speedily bring about the full consummation. Steamers now leave weekly for New York, and twice a week for Savannah, Charleston, and still oftener for Jacksonville and St. John's River country, while there is daily connection by railway with Cedar Keys on the Gulf of Mexico as well as with Jacksonville. This is already a great shipping port for lumber and naval stores.

Fernandina is a handsome little town, with wide, well-shaded streets and attractive gardens, in which may be seen thousands of tropical and semi-tropical plants of great beauty, and growing with astonishing luxuriance. Here may be seen, side by side with the peach, the pear, and the plum, of cooler climates, the orange, the lemon, the lime, the banana, the guava, and even the date palm. The bamboo of the East Indies, lifting its sparse, linear foliage far above the topmost boughs of the orange, and surrounded by clumps of banana plants with their broad, tropical-looking leaves, gives the scene a singularly pleasing and oriental aspect.

The climate of Amelia Island, which allows the ripening of the banana and the guava, is as free from excessive heat in summer, as from killing frosts in winter. A narrow strip of land with the Atlantic Ocean and the tepid Gulf Stream on one side, and a broad river on the other, furnishes these exceptional conditions which give assurance of all the advantages which a lower latitude affords, without its debilitating temperature. Fanned by constant sea breezes, the summers are delightfully cool, while the winters are milder than those of interior places much further south. Add to this the fact that there are no swamps or ponds of stagnant water on the island to breed malaria, so that it is as healthful in summer as in winter, and you have a list of attractions which only a few favored spots on the earth can boast.

The soil of Amelia Island comprises almost every grade, from the poorest pine barrens and "palmetto scrub," to the richest hammock.

The facilities for transportation afforded by the New York and Fernandina line of steamers, together with its unequalled climate advantages, will ultimately cover the island with market gardens, truck farms, orange groves, orchards, and vineyards. "Irish" potatoes and green peas can be shipped from here in March and April, and other vegetables equally in advance of even Charleston and Savannah.

Hunting and fishing are good, as are the

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facilities for boating, surf-bathing, driving, and horseback riding. What can the settler, the invalid, or the pleasure-seeker ask more? Hotel accommodations have been rather scanty, but a large hotel is now being built, which will leave nothing to be desired on that point.

D. H. JACQUES.

AMERICAN PHYSIQUE.

IN the *Woman's Journal* we find an interesting and rational article on the above topic from the pen of an experienced writer, who says:

"I was talking the other day with a New York physician, long retired from practice, who, after an absence of a dozen years in Europe, has returned within a year to this country. He volunteered the remark that nothing had so impressed him, since his return, as the improved health of Americans. that his wife had been equally struck. He said it, and that they had noticed it especially with among the inhabitants of cities, among the more cultivated classes, and in particular among women.

"It so happened that within twenty-four hours almost precisely the same remark was made to me by another gentleman of unusually cosmopolitan experience and past middle age. He further fortified himself by a similar assertion made him by Charles Dickens, in comparing his second visit to this country with his first. In answer to an inquiry as to what points of difference had most impressed him, Dickens said: 'Your people, especially the women, look better fed than formerly.'

"It is possible that in all these cases the witnesses may have been led to exaggerate the original evil, while thinking it over, and so may have felt some undue reaction on their arrival. One of my informants went so far as to say that he was confident that among his circle of friends in Boston and in London a dinner party of half a dozen Americans would outweigh an equally large English party. Granting this to be too bold a statement, and granting the unscientific nature of all these statements, they still indicate a probability of their own truth until refuted by facts or balanced by similar impressions on the other side. They are further corroborated by the surprise expressed by Huxley and some other recent Englishmen at finding us a race more substantial than they had supposed.

"My own impression has long been that nature is endeavoring to take a new departure in the American, and to produce a race more finely organized, more sensitive, more pliable, and of more nervous energy; that this change of type involves some risk to health in the process, but promises greater results when the new type should be established. I am confident that there has been within the last twenty years a great improvement in the physical habits of the more cultivated classes, at least, in this country—better food, better air, better habits as to bathing and exercise. The great increase of athletic games; the greatly increased proportion of seaside and mountain life in summer; the thicker shoes and boots of women and little girls, permitting them to go out more freely in all weathers—these are among the permanent gains. The increased habit of dining late and of taking only a lunch at noon is of itself an enormous gain to the professional and mercantile classes, because it secures time for eating and for digestion. Even the furnaces in houses, which seemed at first so destructive to the very breath of life, turn out to have given a new lease to it; and open fires are being rapidly reintroduced, as a provision for enjoyment and health, after the main body of the house has been tempered by the furnace. There has been, furthermore, a decided improvement in the bread of the community, and a very general introduction of other farinaceous food. All this has happened within my own memory, and gives *a priori* probability to the alleged improvement in physique within twenty years.

"And, if these reasonings are still insufficient on the one side, it must be remembered

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that the facts of the census are almost equally inadequate when quoted on the other. If, for instance, all the young people of a New Hampshire village take a fancy to remove to Wisconsin, it does not show that the race is dying out because their children swell the birth-rate of Wisconsin instead of New York. If in a given city the births among the foreign-born population are twice as many in proportion as among the American, we have not the whole story until we learn whether the deaths are not twice as many also. If so, the inference is that the same recklessness brought the children into the world and sent them out of it, and no physiological inference whatever can be drawn. It was clearly established by the medical commission of the Boston Board of Health, a year or two ago, that 'the general mortality of the foreign element is much greater than that of the native element of our population.' 'This is found to be the case,' they add, 'throughout the United States, as well as in Boston.'

"It seems to me that all our present physiological tendencies are rather favorable than otherwise, and that the transplantation of the English race seems now likely to end in no deterioration, but in a type more high-bred, more finely organized, and also more comprehensive and cosmopolitan. All this has come about, if statistics prove anything, without loss of health, of longevity, or of physical size and weight. And, if this is to hold true, it must be true not only of men, but of women."

WOMAN AS A FOOD-GIVER.

BY JULIA COLMAN.

Popular Ideas of Cookery—A New Science—Soyer—Bad Eating—Woman's Indifference—Cookery at the Exposition—New Lines of Work—Skilled Work—A Large Industry.

Recipes.—An Apple Medley; Apple Butter; Whole-Apple Marmalade; Keeping Late Apples.

WOMAN is the universal food-giver of the race. From the snow-hut, where she takes from her boot-top the bone-dish that answers at once for a ladle and a plate to the dense tropical forests where she serves fruit on green leaves—from the boiled "praties and salt" of the Irish mother to the dainty *dejeuner* of the French housewife—from the variously prepared rice of the Arab or Hindu board, where she who cooks it is not permitted to eat it with her husband, to the elegant dinner of an American queen of society—all the world over it is almost the undisputed province of woman to order the serving of food, and, in most cases, to attend to the details of its preparation.

"Well, what of it?" queries a practical new-century woman. "We know all about that already. To cook and stew, to bake and broil, wash dishes, to set a table and clear it off again has been our lot in all the past centuries. The men think we must do it, and that it is enough for us to do, though, if they do not give us anything to cook, we may earn that, too, if we can find any way of doing it. Meanwhile, *they* will go about the world and do as they please. Now we propose to do as we please, also."

Very well, we say, go on and do it. At the same time we shall (the most of us) continue to prepare the food for husband and children, for the very good reasons that we can not afford to get any one else to do it, and that we can not trust any one else to do it properly. For, however some may affect to look upon it with scorn, it is evident that very important interests are involved, and that woman in this matter of food-giving holds in her power the future of the race more than the men do by any one thing now as exclusively in their hands. At the same time, however, we intend between meals to range creation over, not so much to find something better worth our doing, as to fit ourselves to do this well, and to be able to do other things well also.

POPULAR IDEAS OF COOKERY.

It is not at all surprising that women are so much disposed to turn a deaf ear to everything that may be said to them on the subject of improvement in cookery. Many

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of the men who talk about it do so only because they wish to have their appetites pampered, or to have delicate dinners made up out of little or nothing—as they aver is commonly done by the French cooks.

Some will even go so far as to advocate the liberal education of women in this direction. "Put her to her books," they say; "let her study chemistry, physiology, and hygiene; let her learn to cook scientifically and artistically; then we shall have no more heavy bread and watery potatoes, lightning-streaked biscuit, burned roasts and bad coffee—that is just what we want of women. There is room enough for the employment of all the girls; and those women who are calling out for new spheres of action should turn their attention to this, and learn to do well what they have to do before they ask for more."

This is the substance of what a great many men say on this subject. It is aggravating, certainly, but it is hardly worth the while to say all that might be said in reply, especially as there is very little prospect of the realization of their wishes—and for this I am not sorry. Not that women do not need a broad education in that direction, but this is not broad; this is very narrow; and this way of putting things will never produce the desired end. The human mind will not accomplish the most satisfactory results under such restrictions. A dog or a horse can be trained in that way, and it answers very well for a dog or a horse, because all that is required of him is to carry out the purposes of his master to a certain extent. But a woman is mentally an independent being—capable of original research and investigation. We must take off the shackles, if we would have the benefit of the full exercise of her powers. Let her feel free to range through all the fields of science and art, through social, political, commercial, agricultural, and domestic economy; through law, medicine, theology, biology, and whatever else she will; and then, and only then, will she appreciate the immense importance of the interests involved in the proper nourishment of the body—then will she be moved to devise and to put in operation means for the accomplishment of this high purpose, and be but too glad to lay hold of so mighty an instrument for the elevation of the race—then will she bring all her powers duly trained, her exquisite taste, her delicate intuitions, and her unflagging enterprise to the task; and the preparation of food for her loved ones will become a beautiful and a favorite art.

The fact is, there is waiting for us women

A NEW SCIENCE

—one that will never be developed to any considerable extent until we do it. It is a science second to none in importance, and it requires for its development an acquaintance with all the sciences above-mentioned. Hitherto they have been applied to but a limited extent, and many of them not at all. As matters are now arranged, if there is any studying to be done, the men do it; and if there is any cooking to be done, the women do it; the result is very much as if one person should undertake to eat a meal of food and another digest it.

Hitherto woman has been content to take household science very much as she finds it. Her cookery she has learned of her mother or her grandmother, and she thinks herself attaining the highest perfection of art in that direction if she is able to adopt successfully the fancies of the cook-book or reproduce the delicacies of the French *cuisine*. And it rather puts the crown to her accomplishments if she be able to succeed in making those who enjoy her table sufferers from all the horrors of dyspepsia. This sounds barbarous enough, but we can not deny that there is a touch of admiration in the tone used when speaking of some poor dyspeptic: "His mother was an excellent cook, you know; so were all her family; they always set a good table." We find this tone pervading all talk about eatables. "He likes the good things," some one will say, half-reproachfully, speaking of rich, highly-seasoned dishes that are evidently hurtful to the partaker, or in which the subject is supposed to indulge greedily, though no one blames the cook for making them. I find another proof of the existence of this sentiment in the use I have just made of the words "rich" and "good," as if rich and good things were necessarily hurtful.

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The secret of all this we find in the fact that inquiry is rarely made into the healthfulness of any dish. The only query about a new dish is, "Does it taste good?" or, "Is it nice?"—never "Is it digestible?" 'Is it nutritious?" "Is it wholesome?" This has been the acme of art as well as the practice of the common people.

SOYER

boldly pronounces the highest art of the cook to lie in making the wearied appetite return to the attack with newly-excited pleasure. Listen to his description of a successful attempt in that line. It is somewhat fanciful, but the idea is in accordance with the most of his teaching on that subject: "Some guests, chosen amidst veteran epicureans, seat themselves around a table covered with culinary offerings worthy only of the god of feasts and a small number of the faithful. Their indolent appetite examines, compares, and judges, and at length abandons itself to the incomparable dainties from which it unceasingly seems to draw new ardor. But, alas! pleasure, like pain, has its limits here below. The palate languishes, the stomach sinks, and that which before pleased, now creates only fatigue and disgust. It is then that the skilled cook tries a bold diversion, which must never be risked if the artist does not feel himself a genius. By his orders, three or four dishes—prodigies of science and luxury—appear on the altar which the sacrificers no longer heed. At this sight their looks brighten; desire revives; the smile reappears; the chest dilates; and you no longer distinguish your former guests. A man has transformed them." That is a picture worthy of a worshiper of Bacchus or of the goddess Victua. Soyer talks lightly on these subjects; and, but for the fact that he has written much and worked long in the same line, it might sometimes almost be doubted whether he were in jest or in earnest. Query, Is the typical Frenchman usually in earnest when he talks on morality? Perhaps so. Soyer himself seems to grow a little indignant when seeming to answer some supposed strictures on the morality of this kind of business. Listen again—it is not often you hear him talk: "Why render the cook responsible for the extravagant tastes and follies of his age? Is it for him to reform mankind? Has he either the means or the right? What is asked of him, and what can be asked? To understand exactly the properties of everything he employs—that is, its seasoning power, etc., for he has previously made taste the basis of judgment—to judge with a true taste, to degustate with a delicate palate, to join the skillful address of the hand, and the prompt and comprehensive glance to the bold, but profound, conceptions of the brain (admirable qualities in a cook, but to what purpose?) and, above all, it can not be too often repeated, to identify himself so well with the habits, the wants, even the caprices and gastronomic eccentricities, of those whose existence he embellishes, that he may be able—not to obey them, but to guess them—and even have a presentiment of them."

That is the kind of a cook some men would have us women be, even to guessing the wants of the person whose existence we are supposed to embellish! That is a man's idea of a perfect cook; but, mind you, in all his directions, he tells you little or nothing about the wholesome qualities of the materials with which he deals, unless they are immediately fatal. Many of his dishes are indigestible enough to make dyspeptics of anybody.

The results of such ignorance we see all around us. How much mischief constantly arises from this source it is impossible to estimate. Recognized dyspepsia alone comprises but a few of its victims. Every year adds to the lists of known diseases that result directly from

BAD EATING.

But, besides this, there is probably no disease known to which the system does not become more liable from improper nourishment. The greatest number of victims is taken from the ranks of little children. The bad eating of their parents bequeaths to them impaired constitutions; perhaps some dietetic indiscretion of the mother kills them outright in infancy; or, if spared, as soon as they are old enough to eat they are fed—nay, stuffed with the most indigest-

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ible substances, and at the most unreasonable intervals. One mother, after detailing to me with tears in her eyes the sufferings endured and inflicted by an epileptic child, replied with an evident lack of all feeling of responsibility to an inquiry concerning the cause of the disease, "a fit of indigestion in infancy."

I know a man who is laid aside in the meridian of usefulness because he will have things that "taste good." Very well, our food ought to taste good; and, if I had the care of such invalids, I would make wholesome food taste so good to them that they would have no reason to desire any other. I do not think that a kind Providence designed that all the things that taste good should be hurtful. He certainly intended that we should enjoy the pleasures of taste; indeed, they play a very important part in the economy of digestion; for it is necessary that they should call up and set into harmonious action the entire gastric apparatus. If, on the other hand, the food that we relish hurts us, it is probably because we have bungled in the preparation, or because our appetites are vitiated by a long course of wrong eating.

Now much of this is due to

WOMAN'S INDIFFERENCE

concerning her responsibilities in this line. Whenever she does make extraordinary effort, it is usually only for display, to outshine her neighbor, to get the credit of setting a fine table, or because other people do so; or she does it to gratify the tastes of husband and children whom she delights to please—a worthy motive, but often a fatal and ignorant kindness.

But, in by far the greater majority of cases, she permits the matter to go by a kind of default. She gets the customary or the most convenient dishes, perhaps goes through an intricate and disagreeable round with just as little thought as possible. Certainly we know by many a lugubrious narrative that she often takes great pains to learn a tedious routine and become a proficient in it without profiting so much by her trials and vexations as to inquire if there be not a more excellent way.

COOKERY AT THE EXPOSITION.

We do not know of a more forcible proof of this, than to remind the reader of the utter absence of woman's hand in the culinary line from all the departments of the late Exposition. True, there were canned fruits, vegetables, and meat, but it was not by woman's device or preparation; nor, so far as we saw, any part of her ostensible display. There were crackers in large variety, but they were exhibited by manufacturing firms, and were probably devised by professional bakers, and executed mostly by steam machinery. There were griddle-cakes and biscuit, and blanc-mange, but they were cooked by men before your eyes; and the ladies were invited to eat, not so much to suggest to them any improvement in manipulation as to induce them to permit these manufacturers to do a portion of it for them. There was confectionery; we saw the women making some of that, and were sorry to see it, too. They might have been making something less injurious to the wayfarers who needed to keep their stomachs in the best possible condition.

One woman, with commendable enterprise, displayed a dish-washer, but that was hardly in the food line. It came a little too late, after the food was supposed to have been eaten.

There were restaurants, of course, to feed the people, but not to display our distinctive methods of cooking or our proficiency in that art. The "dairy" might have made a good thing in that line, but I should hardly be willing to admit that there was any effort in that direction. The great effort was to make money. The dishes were poorly cooked and poorly served, albeit I was very thankful it was there. The proprietors were so overrun with patronage that they allowed themselves to be swamped instead of showing themselves equal to the emergency, and providing quality and accommodations to meet the demand.

There was a New England kitchen, a good thing in its way, representing 1776 very well, but what was there to represent 1876? Are we standing still in this line or retrograding? There was a book of recipes

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contributed by American women; designed, we believe, to represent American cookery, and, we opine, it does that too faithfully to make us very proud of it; but what was there about it to stimulate American women or any one else to systematic and intelligent improvement? It is to be hoped that the disparaging comparisons made between our own and the foreign restaurants in the park may stimulate us somewhat.

All this we say more in sorrow than in anger, and principally to call the attention to the fact that this great department of domestic art is most deplorably neglected by those in whose hands it rests. It is, indeed, to be hoped that when the American woman does turn her attention to cookery as a special field for the exercise of her powers, she will astonish the world, and turn out such results as other people have not yet dreamed of in their philosophy; but how long must we wait to see that time?

"Yes," says Mrs. Query, "but one of the most serious objections I have to your treatment of the cookery question, is that it keeps women in their old line of business. What we most need is the opening of such

NEW LINES OF WORK FOR WOMEN

as will enable them to secure new rates of wages, and not oblige them to work at half-pay prices, as they will do so long as they continue in the old routine."

I may rejoin that these lines are opening more and more every year, and that it will take time to effect such extensive changes. In the meantime it is very desirable for women to understand that a good quality of work is indispensable if they would get and keep high wages; so the sooner we introduce into woman's work the idea that skilled labor should command the highest prices, the sooner we help women to a permanently higher place.

But, really, women help themselves just as much by

SKILLED WORK

in the line of food preparations as they help the men, not only in health, but directly in a monetary point of view. A better acquaintance with food materials would help her much in purchasing. She would demand better articles, and not be so easily cheated. This of itself would not only save her a considerable amount of money, but it would raise the standard of articles offered in the market, and make producers take more pains, for they are guided largely by the demands of their customers. Suppose, now, that a woman supplies herself with a fruit-book, and that when she purchases any fruit she shall ask the name of the variety, and make a study of it at home, comparing it with the description in her book. In this way she will soon learn the different varieties in the market, and know whether any specimen is good of its kind, and whether it will answer her purpose. So of other articles, and so buying intelligently she will be able to buy economically.

All this, of course, takes time, and Mrs. Query says that a woman has a great many other things to think of. True, but then she has a great deal of time to think them in. Depend upon it, the best of us let a vast amount of time go to waste because we do not systematize our thoughts. We may as well be thinking about some of these things when we walk or ride, or sew, as to be speculating how much that lady probably paid for the dress she has on; whether the gentleman with her is her husband or her son; or a thousand other things on which we spend thoughts that might just as well be turned in some profitable channel. If we are to do well our part in this world's work, we must economize our time for thought as well as our time for labor.

And now, to follow a little further this example in fruit study. With one's eyes half open it is an easy matter to see how just such studies would often lead to the cultivation of these fruits; and such a natural opening to new employments is worth more than a dozen speculative talks about what fields women ought to enter. The production of food is

A LARGE INDUSTRY,

or collection of industries; some of which, especially the culture of the small fruits, is light, agreeable, and healthful enough for most women.

Still further; if women would learn what are the essential elements of food, and by what processes they are frequently destroyed,

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they could save vast amounts in the aggregate, no small part of which might come into their own purses. Among these we may mention the making of "preserves," the manufacture of fine flour, the fermentation of bread, and especially the manufacture of alcoholic liquors. Many who are now in the habit of putting no small amount of fruit, sugar, and time into home-made wine, would cease to do it if they really understood the wastefulness of the process. And if the mothers understand the wastefulness of the manufacture, the children would soon learn it, and another generation would be some wiser and better for it.

We have thus given some of our reasons for saying that this business of food-giving opens up to women a broad and profitable field for experiment and improvement, and one that is now sadly neglected. Of course it is impossible in a mere glance like this to secure such an appreciation of its importance as comes with the study and observations of years; but there are already some women who are studying the merits of the subject and trying their hands in the line of improvement. When women get fairly into the freedom of the high range of studies to which we have referred, we shall expect to see the preparation of wholesome food take no second place among the arts of an advanced civilization.

RECIPES.

AN APPLE MEDLEY.—This is a very poor year for keeping apples. That this would be the case was foreshadowed by the great heat of the summer, and the unusual forwardness of the earlier varieties. Of course those who were wise governed themselves accordingly. They did not wait for any variety to begin to decay before they found out that it was ready to use, nor did they wait to use up one kind before they began to use another if that other showed signs of maturity. In short, they kept a little ahead of the usual programme, and used their apples while they were in their prime. Those who were *not* wise laid in large stores of apples because they were plenty and cheap, and laying their plans, as usual, are continually using half decayed apples, and being obliged to throw away a great many besides.

We tried to be wise. We had on hand many more apples than usual, because the trees bore more and there was less than the usual sale for them. Besides, we took some on a bad debt, which was so much more than we expected, though the apples were pretty good and in good condition; winter apples they were called, but we dried them just as they began to be mellow.

While we had our drying-room full of these, our fall pippins began to turn yellow. They were far too good to lose; great balls of golden richness, and we filled all our empty cans with these. Some of them we gave away (H. says I must not tell of that, but I thought if I did, some other poor widow might get some rich, handsome apples, that otherwise would rot in the cellar. What a good thing it is that Heaven sometimes sends an over-stock of good things so that the poor may rejoice in unwonted luxuries! Well H. is still obstinate, and I will yield the point. I am glad he is so modest about it, for really it was no self-denial to us. It was only giving them what we could not use ourselves.)

Now our jars are full again, I have been canning greenings and spitzenbergs this past week. We have about all the dried apples we can use, and something else must be done for variety, for I see plainly that we shall run short of fresh apples in the spring, so we will make some

APPLE BUTTER.

True, we have no cider, but we can make it without. Let us look over our material. Our Talman sweets must be disposed of soon. There is now and then a speck on them. We have also a very small native apple that is very sour. They are yet in their prime. They and the Talmans will go together, in about equal parts. We have tried them and know that they harmonize. We look them over and see that none are wormy or decayed, and wash them in warm water with a little soda in it, to facilitate the operation. We take them out into a colander, rinse off the soda, and put them to cook, nearly full of water, in a large porcelain-lined kettle, covering it closely. We let them boil half an hour, or until they are soft; the sweet ones being at the bottom. Then we turn off the water and return it to the kettle, and fill it up with pared, cored, and quartered Talmans, and set it over a slow fire. While these are cooking, we will rub the apples through the colander. If utensils are rightly adjusted, it requires but a little time. I have put a peck through in twenty minutes, and attended to the cooking besides. The best way is to have a stone jar wide enough to take on the colander easily, and rub them through with a common broad potato-pestle. If we wish to have it very nice, we should use no metallic utensils about it at all. For a long time I had a brown earthenware colander with which I always used to strain fruit, but that is broken, so I am obliged to use tin; and I hurry it through. I intend soon to get one of the granite-ware, not much more expensive than earthen-ware; quite as good, and imperishable. It is sheet-iron covered with

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enamel instead of with tin, and not much thicker. It has lately come in vogue, and makes admirable cooking and kitchen utensils.

WHOLE-APPLE MARMALADE.

This method of cooking apples whole and straining them, takes far less time than paring, quartering, and coring them, especially if the apples are small. But the greater advantage is that you get the flavor of the skin, which in many cases is delicious. This strained sauce of itself makes excellent marmalade, even though so much of the juice has been drained off. Some of this I shall use after an hour or so for this purpose, and the remainder I shall put in with the sweet apples already cooking, to form a part of the apple butter.

For this purpose small apples are much better than large ones, because they have much more skin in proportion; but it is advisable to try them first in small quantities, to make sure that the flavor is agreeable. So with regard to these combinations of different apples. If you wish to make up large quantities of kinds as yet untried together, it is best to try some first, and then you are sure of your ground. I have here some gilly-flowers which are very poor cooking apples, but I shall try them with a mixture of sweet and sour, or a small proportion of the latter with some canned quince. I made up some pippins last fall with a small proportion of sweet apples and about one-tenth part quince, and it was delicious.

If you have both sweet and sour apples and use them judiciously, you will need no sugar at all, and there will be much less danger of scorching. I do not stand over my kettle to stir it; but that is owing to several reasons. One is, that I put in the sweet apples at the bottom before I put in this strained apple; but the main thing is, that I do not have the fire very hot. All that is necessary is to have it simmer nearly all over the surface. At the last I shall stir it more. I let it cook in this way five or six hours. Then I shall put it away in stone jars in a place where it will be very cold, but not freeze. I know that old folks used to freeze their cider apple sauce, but I did not think it was at all improved by the operation.

RECORD OF SCIENTIFIC DISCOVERY.

DEVELOPMENT OF THE TRICHINA SPIRALIS. — Some recent experiments by Professor Kuhn, of the University of Halle, are such as to command the attention of consumers of pork. Selecting five healthy pigs, Professor Kuhn fed them with flesh containing trichinæ in the following manner: To the first—an animal seven months old—he gave 100 grammes of trichinous cat's meat and 91 grammes of trichinous dog's meat on three successive days. The second, of the same age, was fed with 100 grammes of the one and 80 of the other for four days. The third, a year old, was given 100 grammes of trichinous dog's flesh, and 100 of trichinous pork for four day. To the fourth, three months old, 103 grammes of trichinous pork were administered for seven days. The fifth, six weeks old, ate 300 grammes of non-trichinous pork during the seven days of the experiment. All the animals sickened more or less under the treatment, but only the fourth died. In the nutritive canal of the latter was found an almost incredibly large mass of trichinæ in the initial stage of development, while the muscles were already seriously infected with half-developed muscle trichinæ. Having slaughtered the other four, Professor Kuhn prepared 300 slides in all, namely, 45 from the striped muscle of the hams of each and 15 of each from other parts of the body. The following table shows the number of trichinæ per pound in each animal, as calculated from the data afforded by the preparations; and from it the reader will readily gather that lean pork (muscle) is decidedly more dangerous than bacon and other portions of the structure:

	To each pound of muscle.	*Per pound elsewhere.*
No. 1,	304,092	110,964
" 2,	578,945	177,192
" 3,	684,208	307,367
" 5,	8,605,233	4,491,607

It thus appears that the development of these organisms in the muscles of affected swine is about double that of other portions of the body. This development is marvelously rapid. From experiments made by feeding healthy animals with infected flesh, it appears that fully-developed females may be found in the muscles of the inoculated animal in about 54 hours after administration of the food. Within 90 hours most of these females are found to have been fecundated, and to be filled with embryos, and in about 120 hours a crop of young trichinæ has already been produced. The male dies immediately after the act of fertilizing the female, but the latter lives until the very last embryo has been developed and discharged. The embryos developed within a single female vary from 60 to 80. The trichina was discovered in 1832 by Professor Hilton, of London, one of the physicians at Guy's Hospital, in the muscles of an aged patient, who had died in the institution, but was first fully described by Professor Owen, who, in 1835, gave it the name by which it has since been designated. In the same year, Heule, of Berlin, prepared sections of muscle from the cadavers of persons that had died in the hospitals of that

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city; but it was not until 1862, when the great epidemic of trichiniasis startled Germany, that the habits and development of the worm were systematically investigated. The incredible rapidity of their propagation appears from the foregoing table in the experiments incident to which the animals were killed on the seventh day after feeding.

Measurement of Angles by Bees.—The editor of the *Record* begs pardon for laying before readers some observations as to the structure of the compound eyes of the higher insects, that may possibly furnish a basis for the scientific explanation of the accuracy with which bees measure angles. As most readers are aware, the cornea of the insect-eye consists of a single membranous layer of transparent lenses or cells, sometimes hexagonal, as represented in standard works, but almost as frequently round or square, depending on their situation. These cells, or double convex lenses, are about $\frac{1}{3000}$ of an inch in diameter, and, by a method of experiment calculated to ascertain their thickness, I find it to be in bees about $\frac{1}{15000}$ of an inch. The cornea is not movable as respects its position but, by means of a circular muscular band, it can, as a whole, be rendered more or less convex, according to circumstances of vision. If a calculation be entered into, as concerns the accuracy of direction of which convex lenses so minute are susceptible, compared with the lenses of the human eye, it will appear that, whereas the average deficiency as respects the estimation of angles in a trained geometer, is about one degree in ninety, the deficiency as concerns the eye of of a bee can not exceed $\frac{3}{1000000}$ of that amount—that is to say, if a human eye may be stated as able to distinguish dimly between an angle of 89 degrees and one of 90, the eye of an insect is, by calculation, capable of distinguishing between an angle of $89\frac{999997}{1000000}$ degrees and an angle of 90. The extraordinary nicety with which building insects construct their works is thus readily accounted for by the extraordinary nicety of perception consequent upon such a congeries of lenses, and by the immovability of the eye as concerns its position in the head, without the necessity of calling in a special instinct. The lobster, the eye of which terminates a bulb styled the eye-stalk, and has a cornea consisting of square lenses, shows, under extraordinary circumstances, a nicety of perception as concerns direction, which approximates to that of insects.

Alternate Generation and Parthenogenesis.—Considerable discussion has been excited in German circles by a recent lecture delivered by Dr. G. A. Komhuber, of Vienna, in which the recent aspects of alternate generation are thoroughly considered. The propagation of organisms consists in general, of course, in this: that certain physical constituents are, under certain circumstances, separated from the parent organism, and develop into other individuals of the same species. If the action of a second animal substance is essential to the development of the germ, it is then styled an ovum, and the process is described as sexual propagation; but if, under favorable circumstances, the germ may become a new being without fecundation, this simple, but very exceptional process is called unsexual or organic reproduction. Alternate reproduction and parthenogenesis belong uniquely to the domain of a sexual propagation, to the study of which Steenstrup, the celebrated Danish naturalist, gave a strong impulse in 1842, by the publication of a brilliant essay. By alternate generation Steenstrup intended to give a name to the process by which a mother organism produces progeny differing from the parent in structure, but endowed with a capacity for producing other organisms of the same type as the mother animal; that is to say, the first generation is reproduced in the third, the second in the fourth, and so on in alternating series. Sometimes, however, the return to the original type is deferred until the third, fourth, or fifth generation; the peculiarity consisting not only in the alternation of different progeny, but in combined sexual and sexless propagation, one generation presenting a system of sexually developed males and females that reproduce by fecundated eggs, and the next being sexless and propagating by fission, by budding, or by germs. Steenstrup was the first to give the name of nurses to animals capable of organic multiplication, because it is their function to furnish aliment for the development of the sexual animal. The number of sexless intermediate generations, as well as their degree of development, differs very materially in different species. They always either possess provisory or temporary organs, being, therefore, true larvæ, or they are fully developed individuals and have the structure and habits of sexual animals, although unsexual. Of the sexless larvæ, such as those of butter flies, that are developed by simple metamorphosis, none have the ability to multiply by the organic process, and they are thus distinguishable from proper nurses. According to Lenckhart, therefore, alternate generation with nurses may be considered as an organic reproduction combined with metamorphosis.

The first observations on alternate generation, now generally styled metagenesis, were made on the salpæ, a species of mollusk abounding in the Mediterranean. They belong to the tunicata, and swim a little beneath the surface in oval or cylindrical bodies, clear as crystal, being often connected in long series. Their movement is performed by taking in water and expelling it again. A German lyric poet was the first to suggest that the isolated salpæ often observed could not be members of a severed series, because they were very unlike the individuals of the series, but always contained progeny resembling the series, while the individuals of the

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latter contained embryons exactly similar to the isolated specimens. His memoranda were published in 1819, but were at first ridiculed as visionary. Not Steenstrup, the naturalist, but a poet, was thus the discoverer of alternate generation in animals. Steenstrup, however, gave due credit to his predecessor, by verifying his views as concerned salpæ, and proving that the series is composed of sexual animals that generate an embryon from an egg, which remains connected with the mother by a placenta for a considerable period, then escapes and develops into a solitary salpa. This is the only case of viviparity observed among the tunicata. The solitary salpa next generates a connected series of sexually developed individuals by germination from buds, which replace the usual male and female organs of generation and thus stand in the attitude of a nurse.

The *Aurelia aurita*, a species of unfringed medusa, presents also some curious phenomena. These animals appear in swarms during the summer along the shores of the Baltic Sea, swimming a little beneath the surface in a slow and deliberate manner. They are pellucid and bell-shaped creatures, presenting their convex surfaces upward. Their sexual organs are ruffles on the interior membrane of the gastric cavity, which open outward at the bottom of the stalk, and communicate with seed-bags in the same cavity. The seed of the male passes, by a simple ciliary motion, into the seed-vesicles of the female portion of the organism, and comes in contact with the ova, which, after fecundation, pass outward into the folds of the tentacles, where they are developed as embryons and provided with a very tender covering of cilia, by means of which, as anamalcules, they move about freely in the water. These forms were once considered as a separate species and styled *planula*. The cilia soon falls off, and the animalcule, having now no organs of locomotion, sinks to the bottom, becomes fixed to some object, and commences to elongate, a cavity appearing in the free end. From this a mouth is soon developed, and papillæ shoot forth and are converted into tentacles by a surprisingly rapid metamorphosis. The animal is now polypoid in structure, and is the same that was once styled the *hydra tuba*. Months may now elapse previous to a second transformation, but by and by a depression appears just below the crown of the tentacles, then another, and another. The depressions deepen, short projections spring forth on their edges and develop into new tentacles, and this continues from above downward until the creature resembles a series of cups, one within the other, all resting upon a common stalk. Finally, one after another, these cups separate from the pedestal, attain their full maturity, and appear at the surface as the bell-shaped animals previously described. The polypoid stage represents the nurse in this instance, and the propagation at this stage takes place by germination and fission, each individual thus produced becoming a sexual medusa. In some of the hydroid medusæ a lower type, the disk being provided with a velum, alternate generation also takes place, but the polypoid stage (or nurse) attains a more advanced development after leaving the ovum, growing to be a large stalk, and putting forth numerous polypi. When, however, the colony has arrived at this high degree of polypoid organization, the sexual animals are formed, separate from the stalk, swim about independently, and deposit their eggs in secluded spots. In others, as in the fresh-water polypi, the sexual animals appear only as globular appendages, not capable of becoming individuals, but remaining fixed to the stalk and constituting simply organs for the production of sexual secretions. This is the imperfect metagenesis of Gegenbauer.

Our Atlantic waters furnish a remarkable example of the latter in the *ovuya diphcys*, with its many-shaped colonies. From the transparent ovum comes first a ciliated larva, as a nurse stage, from the plastic material of which are differentiated, first, a locomotory piece (the posterior of the two swimming bells at the beginning of the stalk of a ripened colony), and, secondly, an appendage that develops into a second bell and the common stalk of the colony. The individuals bud from this stalk in a fixed order, but never separate from it, remaining to the end so connected with the stalk that their abdominal cavities open into it, or rather into a canal passing through it. These individuals serve very different physiological purposes, however, and are not all formed alike. In every tuft of the stalk, often as many as fifty, some of the buds develop into nourishers, or trumpets furnished with suction tubes; some into aggressors, or long tentacles furnished with terminal cells similar to those of the nettle; some into defenders, or helmets to protect the nourishers; and some into reproducers, the latest developed, consisting in racemous diœcious capsules swinging in small swimming bells. By the alternate contraction and expansion of the bell-shaped swimmers at the upper end of the colony, with which the smaller bells move in unison, this complex creature is propelled through the water. The medusa bell is the basis of the whole creation, but here, under peculiar circumstances and in a very low type of organism, the reader has a glimpse of the rudimentary principle of complex distribution of function that prevails in the higher animals. In a few allied species, such as the physalids and vellelids, the sexual animals separate from the nursing stalks and have a brief existence as individuals. The study of intestinal worms, such as the tape-worm, will furnish the reader who wishes to follow out these hints, with many curious phenomena respecting metagenesis. Plant-lice also present accessible studies in this field, although here the nurses are mature individuals.

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AGRICULTURAL HINTS.

[The mind is the man. Farming, in the highest sense, is not simply doing the hard work necessary. This can be done by muscle when directed by brains. The true farmer is he who can plan, direct, and control skillfully.]

As this department is one which should contain the most recent gleanings of wisdom and experience, our readers and friends in the rural districts are invited to send us any items of value to agriculturists in general, and which should have a wide circulation. Due credit will, in every case, be given to the contributor.

Okeefinokee Swamp to be drained.—A company which was organized several years ago, is about to begin operations for the draining of the rich and varied marsh lands known as Okeefinokee Swamp in Georgia. The *South* says: "Geographically and hydrographically, this high land swamp, or basin, as it should more properly be called, with its surrounding plateau, is one of the most peculiar sections in all this country. That portion which is designated as 'the swamp' is the lower level of a plateau which covers something over a million of acres of land. The swamp lies upon the southern and southwestern portion of this plateau, and extends on its eastern side to within about six miles of the St. Mary's river, and to within a less distance on its western side to the Suwannee river, which flows into the Gulf of Mexico. It has an elevation above the level of tide water in the St. Mary's of about forty feet, and of about fourteen feet above the Suwannee; hence the drainage of the entire swamp will admit of easy and thorough accomplishment."

American Beef and Mutton in Europe.—Within a few months a new feature in the American export trade has made great strides toward an important position. We refer to the sending of fresh beef and mutton in refrigerators to Europe. There are now seventeen Atlantic steamships provided with patent refrigerators, capable of holding about one hundred and fifty carcasses each. The meat competes with English in London and Liverpool, and our mutton finds a ready sale, and the profits are such that other steamships are being equipped for the transport. Besides this, our wheat, flour, and provisions are relied upon by increasing numbers in Europe and South America; and game and fruit and wine have more than occasional shipments.

Cheap Garden Walks.—We find this in the *American Builder*, and we doubt whether a good walk can be more easily and cheaply made: "Take one part of coal ashes, one part of sand, such as is used for mortar, and two parts of clay. Mix well together, a little stiffer than mortar, lay at least four inches deep. When dry, it will be as hard and compact as stone. Another way is to collect all the stones you can that are about the size of an egg, placing the largest ones on the bottom, fill up with ashes, sand, and clay, and you will have a walk as solid as a plank."

Too Many Fences.—I notice many farms of from fifty to two hundred acres, upon which the matter of fences must be about as much an encumbrance as would be a heavy mortgage. Indeed, I have sometimes thought that the removal of at least one-half the fences upon these farms, would be a good step toward removing the debts under which some of our most industrious and hard-working farmers are laboring. Not only this, but it would also lighten the demand that is constantly being made upon their time and patience to repair fences. Dividing a farm all up into fields of from one to five acres, seems to me to be useless. Good line fences are generally a necessity. But after that, fences to inclose pasture-land ought to about end the matter. Of course, circumstances may require a few extra fences, as about garden, orchard, etc., yet I think many of the inside fences might be dispensed with to great advantage.—*Cor. Germ. Telegraph.*

Apples in America.—In the United States there are nearly one million acres devoted to the apple. In Pliny's time there were said to be twenty-two varieties known to the Romans; but we who live to-day have the benefit of over two hundred kinds. To think that all these diverse varieties, from the king to the golden-sweet, came from the harsh and acrid crab, and are largely the result of patient culture devoted to specific ends, shows what elasticity lies buried in Nature, and only awaits the genius of man or the favor of God. In England, where they have poorer oysters than we have, they also have poorer apples. The fruit requires the alternation of cold winters and warm sunshine, and draws its elixir and lusciousness from a favoring soil. The result is, American apples form an immense export trade, and are eagerly sought abroad. I am told there is a farmer in Ulster County, New York, who devotes two hundred acres to one kind of apple—the Newtown pippin. This orchard is picked every year by hand, the fruit is carefully barreled, and the whole crop goes to the English market, where it brings the highest price. It is said that there

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is no such variety as a distinctively "sweet apple" known in England.—*Exchange.*

Milk as a Disinfectant.—A practice is prevalent in some parts of the country which shows the power possessed by milk to absorb the impurities of the atmosphere. It is that of placing a saucer of new milk in a larder, to preserve meat or game from taint. It not only serves that purpose, but the milk at the end of a few hours becomes so impure that no animal will touch it.

Training Grape Vines.—A grape-grower writes: "Young vines have always given the best results with me; those one and two years old are to be preferred for planting. If you are setting a vineyard, eight feet by eight feet is a good distance for most varieties. The first season train only one shoot, and cut back in autumn to two or three buds. The second year train two shoots, and in autumn, if your vines have grown as they should with good cultivation, you will have two arms four feet long. The first two seasons a good stake will be all the support the vines will need, but the third year a trellis of some kind, either of slats or wire, will be necessary. To the lower slat or wire the two arms grown should be tied at the commencement of the third year, and your vines are ready to be trained upon any system you may choose, either the close-spur method or the renewal. And here is where the novice often blunders, following, perhaps, too closely the rules laid down in the books, and cutting back to two eyes every season. To our rampant native vines, like the Concord and Hartford Prolific, such excessive pruning I have found injurious, and tending to promote the growth of wood with but little fruit. If any one should ask me how to prune an old and neglected vine, I should say, cut away as much old wood as possible and leave as much new as possible, or rather, prune on the renewal system, modified to suit circumstances."

Experiments recently made in England indicate that wagons are most easily drawn on all kinds of roads, when the fore and hind wheel are of the same size, and the pole lies lower than the axle.

Keeping Tools in Winter.—The editor of the *Progressive Farmer* thus humorously admonishes our country friends:

"And now, dear farmers, such of you as are tired of the old tools, let us give you a bit of advice. If you don't take it any better than advice we have given you on former occasions, all right—it will be no great loss to us; so here it is: Do not rub linseed oil on your fork and shovel and rake handles; do not paint your ploughs and mowers; do not use any rust preventive on the iron and steel parts; and above all, leave everything out of doors. You really have no idea how quickly you will possess a new set of tools, provided you have a balance at the bank. Only seven mowers and one reaper out in the air in a stretch of ninety miles! And only one set of harness! Well, we will hope for a better report from that section the next time our contemporary goes that way."

Fall or Spring Planting.—Our own opinions on this subject are confirmed by the views of most pomologists of the day. D. E. F., in the *Observer*, has some practical suggestions which are worth repeating here:

"Novices are sometimes puzzled as to the comparative merits of fall or spring planting of trees and vines. Possibly the locality and soil may sometimes make a difference, but generally, if the work is well done and the soil is in proper order, there is no risk in either case. As a rule, I think there are several advantages in fall planting. One is, that there is usually not so much hurrying work—the planting season extending from the fall of the leaves until the earth freezes or the weather becomes too cold to work with bare hands. In 1866, I planted 240 pear trees early in December with most excellent success.

"A second advantage is, that the fall planted trees get an earlier start in the spring than those planted in the spring, and, of course, have a longer season for growth. Some contend that fall-planted trees are apt to be displaced by high winds and the settling of the soil about them, but no such result need be apprehended if the work is done right. Every root should be placed as nearly in its natural position as possible and fine earth carefully packed about it with the fingers; no two roots of any size should be left to touch each other, and when all are covered, the upper earth should be trodden down carefully, and then not much future settling need be apprehended.

"With these precautions, including the proper pruning of the tops to correspond with the amount of roots, planting at either season is safe enough. It is specially important that this proportion between roots and tops should be maintained, because, by leaving too much top, the amount of leaves, which are the lungs of a tree, make a draft on the roots which they may be unable to supply. In that case, a feeble and stunted growth will be the result, and in some cases an early death even after a full show of foliage. It is always safe to cut back pretty thoroughly at the time of transplanting; the tree will be more certain to live and do well, and will the better maintain an erect position until the roots are well established."

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MRS. C. FOWLER WELLS, *Proprietor.*
H. S. DRAYTON, A.M., *Editor.* N. SIZER, *Associate.*

NEW YORK,
JANUARY, 1877.

NEW-YEAR REFLECTIONS.

TO our subscribers and friends we send greeting, and most cordial wishes for their health and prosperity during the year which has just begun. The times to many, perhaps to the most of them, may be "out of joint," and difficulties and perplexities may bear hard upon them, but complaints and repining will not mend matters; while a courageous, hopeful spirit will enable one to "pull through," and assist greatly toward securing a better condition. People get easily into the habit of complaining. We know business men who appear to be constitutionally disposed to it, and however much their enterprises may succeed, are always ready with their *ifs*, *buts*, and *might-have-beens*. Business generally is depressed. Circumstances, political and social, have contributed to this condition. Let our people use their perception and reflection seriously in determining the causes, and then apply their intellectual and physical powers earnestly to the removal of those causes, and a fresh tide of activity will begin to flow. The prosperity of five or six years ago was one of extravagance and profusion, not that healthful activity which conduces to solid progress. The economies in the different ranks of society were disturbed and irregular; men and women glutted with luxuries, forgot or disdained to regard necessaries; prudence, carefulness, frugality, sobriety were contemned. Suddenly the ebb began, just when merchants, manufacturers, brokers, bankers, "operators" were chuckling over the prospect of great profits, and the world of fashion was extending its scale of display, glitter, and equipage. Crisis succeeded crisis. Failure, wreck, ruin, disclosed the weakness and imprudence of thousands who had been "looked up to" as the brilliant, *enterprising* leaders of business and society. They were tested and found wanting. Unfortunately, however, the fall of many such men involved loss and sorrow to thousands of industrious, steady, unpretending people, those who give to communities character and strength. Here was the most serious part of the trouble; and here the "hard times" pinch most now, and, we presume, will always pinch, until the time comes when there shall be no more agents, brokers, operators, or whatever else may be their name, to trade and trifle with the credit and capital which the industrious classes produce.

Pride will have its fall. Evil-doers will be brought to judgment. The honest, though persecuted and suffering, can be at peace with themselves, even happy in the conviction of doing the right and loving the true. "To the righteous good shall be repaid," is one of the many promises written in the Scriptures for the consideration of the virtuous.

As in the time of depression and scarcity the well-ordered, frugal housekeeper will maintain an air of cheeriness and comfort in her household, so the man whose mind is well-ordered and harmonious will meet obstacles and disasters with composure, and with patient energy set about their removal

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and retrieval, while the unbalanced, disorderly mind, in a like condition will be fretful, despondent, impotent. Here comes in mental science to regulate, improve, and fill out mind, so that men may the more efficiently exercise its faculties, and the more safely prosecute the business of life, and so the more surely obtain its rewards. "The mind is the man," and the incidents of life show its qualities noble or mean, strong or weak. Wise is he who aims to develop a higher degree of intellectual and moral capability than he thinks himself to possess. Patient effort, study, and reflection will accomplish the object. Mere physical surroundings can not prevent one from making mental progress. Else, where would be the hundreds of great men who rose from the soil to be leaders in their day and nation?

We are earnest, therefore, in bidding our friends to be of good cheer, and to take courage, and we are very willing to accept such counsel for ourselves. For

"This life is not all sunshine,
Nor is it yet all showers,
But storms and calms alternate,
As thorns among the flowers.
And while we seek the roses,
The thorns full oft we scan,
Still let us, though they wound us,
Be happy as we can."

THE PRESIDENT MUDDLE.

THE recent election for a President to serve from the 4th of March next has developed a state of affairs political in the South which a good citizen could not contemplate without sorrow. The partisans of both sides in canvassing the votes of many districts have shown a disposition in which a regard for accuracy and truth has little or no place. Meanwhile the whole machinery of the election has been hindered from accomplishing its final results, because of this fraudulent meddling with returns affecting but a few electors. It is now made evident, if never before, that the electoral system of securing a President is totally unsuitable to our times, being cumbersome, indirect, and incapable of fairly exhibiting the popular will.

The vastness of our territory, and the growth of our population, demand an elective machine simple in its operation, and incapable of easy manipulation by professional politicians.

A most important influence of the political uncertainty—the one which chiefly concerns the interests of the people—is the general depression of commercial affairs. Just prior to the election there appeared to be a revival of a very encouraging nature in business generally, but the failure to reach a definite conclusion seemed to paralyze the nerves of trade, and to fill the public mind with gloomy forebodings. This evolution of the political contingency is its most disastrous one, and will probably work out some change in the system. A losing policy will not be tolerated long by a great people whose industry and economy are the chief features in their private enterprises.

HEALTH A DUTY.

A CORRESPONDENT writes: "I have been accustomed to view the subject of diet as subordinate to that of the training and culture of the mind. You appear to consider it, if I make the right inference from opinions expressed in the JOURNAL, of almost equal importance. How is it?"

We hold that it is one of the primary duties to keep ourselves in excellent physical conditions: in fact, to order our habits so that they shall conduce to the best health of which our constitutions are susceptible, is just as much a duty as to cultivate the sentiments of honesty and good-will. Just con-

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sider the effect of being ill upon others. Is it not an improper infliction? He who is sick becomes incapable of performing his normal work; and if his sickness be severe, he prevents others from doing their normal and productive work. Hence there is much resultant loss to society.

We grant that there exist cases of invalidism which may contribute richly in the way of moral strength to the community, but they are rare. The familiar side of ordinary invalidism is characterized by complaining, peevishness, exaction, which we are wont to take as matter-of-course accompaniments of illness, and we treat the "patient" in that gentle, sympathizing manner, which implies that his affliction is some unaccountable thing, and not an effect of conduct for which he is responsible. Some moralists, the Concord philosopher among them, go to the length of asserting that sickness is a kind of sin, because it is not only in its immediate effect a hindrance to the free activities of normal life, but also because of its being the direct or indirect consequence of transgression of physiological law.

Allowance, certainly, should be made for popular ignorance of the nature of such law. But in time one would think that the sore experiences of ignorance would stimulate at least the intelligent to more earnest endeavors for light and knowledge. At any rate, those who claim enlightenment in hygienic affairs should lend a willing mind to the work of instructing the people at large in the things pertaining to health. "My people are destroyed for lack of knowledge." In no respect is the application of this prophetic declaration more definite and clear than to the physical habits of people. Society is full of its "skeletons in the closet" and out of it, its asylums, infirmaries, hospitals, and prisons, because of our failure to know and practice the true and useful.

THE TURKO-RUSSIAN SQUABBLE.

IN Europe the "war cloud" is still threatening, and ministers are busy in negotiations to avert what they know would be a tremendous catastrophy, and yet save to their respective nations honor and prestige. On the one side we see England, France, and perhaps Austria, substantially advocating the cause of the semi-barbarous Mohammedan. On the other we see Russia in sympathy with insurgent Servia, and anxious to obtain a maritime outlet upon the Mediterranean for her increasing commerce. Who can wonder at the impatience with which an empire with the tremendous resources which Russia possesses, should be kept in check—prevented from utilizing many of its natural advantages—by a weak, supine people whose religion, language, habits, are altogether out of harmony with the civilization of Europe.

There is something paltry and contemptible in the policy of a nation boasting a high order of Christianity which seeks to prop up an effete race simply because of jealousy! Russia is out of her swaddling-clothes. She is conscious of her nascent energies, and is entitled to consideration for the increase of her contributions to the world's progress. Why should Turkey's bad be preferred to Russia's good elements in western civilization? But our Mediterranean, African, and Indian interests will be jeopardized by permitting Russia to obtain a hold upon the Bosphorus! exclaim the jealous Christian powers. It seems to us that Mentor's advice to Idomeneus and the Allies would be fitting in this case, that instead of attempting to destroy each other with fire and sword, they should closely cooperate in friendly effort for each other's improvement in all those good and useful arts which conduce to human happiness.

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As a suggestion we offer it, that the United States be invited by the powers of Europe to act as arbiter in the settlement of the great muddle. "Blessed are the Peace-makers."

LOOK OUT FOR FIRE.

NOW that winter is again upon us, and every house has its one, two, three, or more fires kept burning to warm rooms to a comfortable temperature, it is in place for us to say a word or two with regard to the care which should be taken against setting one's house on fire. Almost every conflagration is due either to carelessness or incendiarism. We very rarely hear of spontaneous combustion, or of a fire whose origin can not be ascertained. Some of the most extensive conflagrations have been started by the overturning of a lamp, or by dropping a lighted match upon very inflammable matter, or by merely shaking hot ashes from a cigar or tobacco pipe. Many a costly house has been destroyed by the kindling of a single match which had fallen upon the carpet and had been trodden upon by one of the family. Children have been permitted to play with matches to the loss and sorrow of many a parent.

People generally should see to it that all inflammable matter be kept well away from the stove, fire-place, grate, or register. Clothes should not be left close to the stove to dry, unless there is some one at hand to care for them. Matches should be kept in metal or earthen boxes, well out of the reach of children. Open fires which are kept burning all night should have a metal guard or screen placed before them, or some arrangement by which they can be shut in. Kindling wood should not be placed to dry on top of a stove.

Stove-pipes should be well set in chimneys, and metal receptacles provided for coal ashes. Keep kerosene lamps and cans away from the fire-place, and use no oil which will ignite in an open vessel. Fill no lamps at night. If gas be used, see that the brackets are not swung close to wood-work, curtains, or shades.

Every bed-room should be provided with a strong rope which might be used for reaching the ground from a window, should the occupant be awakened at night only to find his escape through the door barred by advancing flames.

MADAGASCAR'S QUEEN vs. RUM.

HOW strange it is that in some things most intimately affecting the moral and physical life of men, heathen authorities exhibit a clearer discernment, and a more definite line of conduct than Christian statesmen. Witness, for instance, the late manifesto of the Queen of Madagascar against the sale and use of rum in her dominions. We "civilized" people may be admonished by that far-off islander who reasons while she commands. Here is the document in an English dress:

"I, Ranovalomanjaka, by the Grace of God and Will of my People, Queen of Madagascar, and Defender of the Laws of my Kingdom:—

"And this is what I say to you, my subjects. God has given me this land and kingdom; and concerning the rum, oh, my subjects, you and I have agreed that it shall not be sold in Antananarivo, or in the district in which it was agreed it should not be sold. [Imerina, the central province.] Therefore I remind you of this again, because the rum does harm to your persons, spends your possessions in vain, harms your wives and children, makes foolish the wise, makes more foolish the foolish [literally gives heart to the foolish], and causes people not to fear the laws of the kingdom, and especially makes them guilty before God.

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All this shows the rum to be a bad thing to have at Antananarivo, for at night (under its influence) people go about with clubs to fight, and they fight each other without cause, and stone each other; therefore why do you love it, oh, my people?

"But I tell you that trade in good things, by which you can earn money, makes me very glad, indeed, oh my people. If you trade in rum, or employ people to trade in it, here in Antananarivo, or in the district spoken of above, then, according to the laws which were made formerly, I consider you to be guilty, because I am not ashamed to make laws in my kingdom which shall do you good. Therefore I tell you that if there are people who break my laws then I must punish them. Is not this so, oh, my people?

"Says Ranovalomanjaka,

"QUEEN OF MADAGASCAR.

"*August* 8, 1876."

OBITUARY.

HENRY B. GIBBONS, phrenologist, died at his residence, Newport, Herkimer County, New York, on the 17th of October last, aged sixty-five. He entered the field of phrenology as a lecturer in 1843, having been a pupil of Nelson Sizer. Mr. Gibbons was a native of East Granville, Massachusetts, and was a man of uncommon practical sagacity. He had a clear, sharp intellect; a most retentive memory of facts, persons, and places, and, as a phrenologist, was a remarkably accurate reader of character; able to bring to the illustration of his subject any fact which he had ever experienced or heard of. He was intuitive in his grasp of character, succeeding often in a manner truly wonderful in tracing the obscure and hidden qualities of those whose organizations he was called upon to study. In boyhood he received an injury to one knee, and had what is called a white swelling, or fever-sore, from which he suffered greatly for ten years. The knee finally healed, but became stiff, and rendered him a cripple for life. A few weeks before his death, having exercised a little more than usual, the crippled knee became inflamed, then suppurated, and was the cause of his death. We gladly bear testimony to his excellent character, and to his talent and sincerity as a phrenologist. He leaves an estimable wife, an adopted daughter, and a wide circle of friends to mourn his loss.

CLIMATIC CHANGES IN RUSSIA.—The winters in Russia are becoming colder every year, and the summers hotter, more dry, and less fruitful, owing, as is clearly stated by Livingston, to the destruction of the woodlands which formerly abounded in the southern districts. The clearing of these lands has caused such enormous evaporation that many once capacious water-courses have become mere swamps or are completely dry. The Dnieper becomes every day more shallow, and its tributaries are no longer worthy of the name of streams. The question of replanting has frequently been agitated, but the dried condition of the earth in many places in Southern Russia makes it a matter of great difficulty. Energetic measures, however, are about being adopted to overcome this difficulty by scientific means.

A NEW FLOURING PROCESS.—"They are making flour in England by crushing the grain with a machine formed of innumerable little trip-hammers. A pounding mill of this kind, costing $1,000, it is said, will make as much flour as an ordinary mill costing $5,000."

So says an exchange. The idea of making flour by direct impact is not new. We believe that some effort has been made to develop a process of the kind in this country. The Chicago cold air process is successful in preventing the tendency to undue heating of the meal, which is a serious objection to the old method.

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Our Mentorial Bureau.

[In this Department will be noticed such matters as are of interest to correspondents and to the general reader. Contributions for "What They Say" should be brief, pointed, and creamy, to secure publication.]

To Our Correspondents.

THE PRESSURE OF OUR BUSINESS IS SUCH *that we cannot undertake to return unavailable contributions unless the necessary postage is provided by the writers. In all cases, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage—stamps being preferred. Anonymous letters will not be considered.*

QUESTIONS OF "GENERAL INTEREST" ONLY *will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.*

IF AN INQUIRY FAIL TO RECEIVE ATTENTION *within two months, the correspondent should repeat it; if not then published, the inquirer may conclude that an answer is withheld, for good reasons, by the editor.*

COLOR OF HAIR VS. COLOR OF WHISKERS.—Why is it that some men have dark or black hair and light or red whiskers? I am among the class that have black hair and red whiskers. I do not like to dye, so I let my whiskers remain in their natural color. Is this difference caused by some incidental condition of the system?

Answer. We believe that where there is a difference between the color of the hair and the color of the whiskers, the whiskers are generally lighter. It is very common to see the goatee, or the part which grows on the under lip, much lighter than the remainder of the whiskers on and near the chin. Whiskers are generally darker where they unite with hair, and grow lighter toward the chin. Some people whom we know, have light, flaxen hair, and dark brown, or black whiskers, but in that case their mother had light hair and blue eyes, and their father had black hair and black eyes. The son inherited the mother's hair and eyes, and the father's beard and whiskers. There are, in the same family, three sons thus distinguished, and four other brothers had dark brown, bordering on black hair, and whiskers of about the same color. It is common, and we believe general, for the whiskers or beard to be lighter than the hair, though there are exceptions, and we know of no reason why this should be so, no more than we can tell why the fur of a bear should be black on the back and reddish-brown on the belly; or why a deer or squirrel should be gray or grayish-brown on the back and white on the belly. Fish are often very dark on the back, and white or nearly so on the belly. This latter is explained as a means of defence to the small fish against the attacks of larger, in this that, if the large fish looks down upon the small one, the back and the muddy ground shall seem to be of a color, and thereby the small fish will be measurably concealed; or, if the large fish be below and he looks up, the white, under part of the small fish will have such resemblance to the light which comes from the sky through the water, that the small fish will not be so readily discerned. It is common for oxen, which are cherry red, to have a white brush to the tail, and it is also common for bay, and sorrel, and even black horses, to have a white star in the forehead. In regard to the precise causes of these phenomena, we find it convenient and truthful to say we do not know. We would simply advise every man to avoid dyeing his hair, for the materials used in hair dyes are often dangerous to the health of the user, rendering him liable to paralysis.

NAPOLEON'S HEAD.—We have answered questions like yours several times through the columns of the PHRENOLOGICAL. On two occasions, we have given rather full answers, quoting authorities in support of our assertion that Napoleon's brain was considerably above the average size. If you will refer to a treatise on Phrenology by a Frenchman named Lelut, antagonistic to its principles, however, you will find considerable space occupied by a consideration of Napoleon's brain and mental organization, and in that it is expressly stated that Napoleon's head was large. That treatise was published about the year 1825, at a time when the writer could obtain all the particulars necessary for the support of such a statement.

In our collection we have a copy of the mask of Napoleon, taken by Dr. Antommachi at Saint Helena, and the measurements being taken on the spot, we will say the breadth of the head directly over the ears is six and one-half inches, which is fully three-quarter inches more than the average breadth of the human head. Anteriorly, from the opening of the ear to the superciliary

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ridge just over the root of the nose, the calliper measurement is five and three-quarter inches. We are very confident in saying that if our correspondent had five inches of such length, he could pride himself upon a pretty liberal intellectual endowment. The height from the opening of the ear to the crown is six and one-quarter inches. A friend sitting near with a head by no means low, shows a height of five and three-quarter inches.

We find that the superficial length of the anterior portion of the head from ear to ear around Individuality, is fourteen and one-quarter inches, and the length indicated by the tape line over Firmness is fourteen and one-half inches.

Estimating the size of the head by these indications, we would say that its circumference could not have been less than twenty-three and a half inches, and it is likely that it was fully twenty-four. We will say, furthermore, that on our shelves we have casts of the heads of a dozen persons distinguished for careers of crime, and especially murder. A development in the lateral region as indicated by this cast of Napoleon, is not exceeded by any of these criminals; their heads, to be sure, are low and flat, comparatively, and lacking in the magnificent anterior reach of the Napoleonic brain. We have no doubt of the authenticity of our cast. There is but one other in this country, so far as we know, and that is owned by a gentleman in Massachusetts, and was obtained from Europe many years ago, and has been handed down as a family treasure. The owner has seen ours, and pronounced it a *fac-simile* of his.

LITERARY FACULTIES.—J. C. H.—Can a person with large Eventuality, Time, Tune, and Full Language, become a story writer? If to these are added Ideality, Constructiveness, and a fair share of Spirituality, he can, by dint of the requisite study and practice.

INVENTION.—J. C. F., Fairfax C. H.—We are not prepared to embark in any enterprise having for its object the development or introduction of a new device, unless it be especially applicable to our line of business as publishers of phrenological and scientific books. We are most cordially in favor of the general utilizing of new inventions which in any way assist men or women in the performance of the business of daily life. We have no doubt that your invention possesses merit, and it would be a wiser course for you to obtain the co-operation of some neighbor or friend who is within easy personal reach, for the purpose of bringing it before the public.

CATARRHAL DISORDER.—H. B.—Your trouble is evidently due to an impure condition of the blood; which is, perhaps, hereditary, or induced by improprieties of life. We think that a careful hygienic diet will help you. The physician who advised in regard to the disuse of oily food was quite right. We would add that you eat brown bread, or bread made of "middlings" flour, and nothing in the way of pastries or articles that have butter, lard, or other forms of grease cooked into their substance. Eat liberally of fruit; it will tend to purify the blood, and reduce the tendency to congestion. Sleep abundantly. Avoid night dissipation; that is, late hours; and take abundance of exercise in the open air. We would advise you to make use of no "heroically" advertised appliances.

HYPOCHONDRIA.—This disease, a form of insanity, may be due to different causes; the most common one an irregular life, as regards eating, misfortunes, or disappointments in business or social life. Unless the person be too old, we think he can be benefited to a great extent by adopting reformatory measures—by endeavoring to live in a straightforward manner, and exerting himself to the utmost of his capacity in the line of duty, keeping before his mind objects of a high order.

STUDY HOURS.—B. B. S.—*Question.* Should I study before breakfast?

Answer. We look upon the early morning hours as very desirable for the purposes of mental labor. If one have good rest at night, he is likely to rise with a feeling of freshness which enables the mind to act freely and efficiently, and to exercise for an hour or two before breakfast is conducive to excellent results. While a student at college, we found it to be a general experience that we could master our more difficult studies with more facility in the morning than at night. Very frequently did it happen that a lesson which perplexed us to the verge of despair at night, was resolved with wonderful ease the next morning. It is very much better for one to retire early and rise early, than to retire late and rise late. Most men require eight hours of sleep, and if they retire when the night is far advanced, they must be asleep when nature is all agog. Some sanitary philosophers claim that each hour of sleep previous to midnight is worth two hours after midnight.

A NOCTURNAL VISION.—H. B.—Many of the visions of the night, especially those of a disagreeable sort, are due to deranged digestion. Perhaps your friend had eaten too heavy a meal for his supper, and his overloaded stomach, acting upon certain organs of the brain, produced the remarkable midnight experiences which you describe. Evidently he was in a reverie, and in reverie one's mental images have such a character of realism that their influence can hardly be shaken off, and they haunt him in his waking hours.

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WAR.—A. B. C.—As far back as history runs, the din of battle has not ceased from the world's borders. Every day we hear of some nation being engaged in mortal strife. It would be impossible to calculate the mortality due to war and the expenses thereof, for the reason that history does not furnish sufficient data. Most of the debts of the nations called civilized are the results of war. You know that prior to our recent conflict, our national debt was insignificant, but the civil war involved a vast bulk, represented by over two thousand millions of public debt. The debt of foreign nations is even greater, that of Great Britain notably so, it being upward of four thousand millions, and every fresh war adds to it. The miserable men whose advice is for war, have no appreciation of the crime, distress, and taxation which are the inevitable sequels of it.

What They Say.

RESOLUTION.—E. E. M., of Idaho, writes: "I am a diligent reader of your valuable journal, and would rather go without some of my food than be without it. I am a firm believer in phrenology and the doctrine you teach. I am trying to live by hygienic principles; use no stimulants, tea, coffee, or tobacco; eat Graham bread when I can get it, and do away with meat as much as practicable. I do not wish to become a victim of dyspepsia, as most of the people are around me."

TEACHERS FIND IT MOST USEFUL.—Mr. Editor: I have read your JOURNAL for eighteen months, "The Annual," "How to Read Character," and studied the phrenological bust, and am becoming somewat familiar with the science of phrenology, and thus trying to learn something of that mysterious cupola which is so gracefully balanced over men's shoulders. I notice that it is a help to me in my profession (school teaching), especially in managing pupils of varied temperaments and divers dispositions.

G. S.

HOW TO LIVE.

We all should live while here on earth,
To gain life's richest treasure,
That which is of the highest worth,
And yields the purest pleasure;
That which will best unfold the mind,
And bless the soul immortal;
That wealth of wisdom most refined
Which guides to Heaven's portal.

To live a true and useful life,
Should be the soul's ambition;
Our work of life should lessen strife,
And better man's condition.
When honor's due for deeds well done,
The world will so declare it—
Fame's jewelled crown must first be won,
Or we can never wear it.

Then let us nobly act life's part—
Be just in all our dealing,
Be pure in mind, be pure in heart,
And be refined in feeling;
Yes, if we would our lives adorn,
To enter Heaven's bright portal,
Truth's brightest jewels should be worn,
To crown the soul immortal.

—W. M. STOCKWELL.

A MUSICAL LIFE.—The very air is laden with life and music—nature's own music. Can you not hear its mellifluent flow? And when she is such a happy mother, ought her children to be sad? Oh, the magical influence of a ringing laugh! The happy possessor of a merry heart carries a life-giving tonic everywhere. Let all belonging to this joyous army fling their banners high o'er the heads of the frowners and cynics, who, with fossilized features, moulded in adamant, go around freezing us up.

Laugh when we can, say I, for many are the times we can not. Don't let dull care crush out all the melody of our lives; we have by nature not a trifle to lose. Only let it be tempered with good sense and good works, and thereby be made deeper and richer. Time's finger is ever furrowing our lives with burdens, cares, duties, disappointments, and the long list of haps and mishaps that hasten premature age with its frosty hair, stiffened joints, wrinkled brows, and bedimmed vision, if we do not relax our minds and refresh our souls, when we can, at the fountains of joy so abundant and free. Where shall we find these fountains? The answer is, within ourselves. But they are latent till the springs of sympathy, kindness, and self-sacrifice are touched, and then how the waters of purest pleasure well up in our souls!

God help us that we may so tune our lives that not an hour of discord shall interrupt their harmony, and that our influence may serve to guide the frail bark of some tempest-tossed soul through the rough breakers to the calm beyond.

USES OF PHRENOLOGY IN EDUCATION.—The question has been put to me often by teachers: "What good is phrenology to us?" They seem to be surprised when we say that it is the one thing needed by them above everything else; and that it solves some of the most intricate problems, if not all that are unsolvable by teachers and parents. I address myself specifically to teachers, as I think *they* ought to walk in the light, if any one should! What would *you*

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think, if a man should announce himself to the public as a physician, who had never studied anatomy or physiology, and hence knew nothing of the functions of the several organs? Would you employ him? Would the public? The doctor may have studied the *Materia Medica* of the schools; he may have studied the classification and symptoms of diseases, and yet lack the one thing needful. The teacher announces himself to the public, he has studied the branches necessary to pass an examination, and seeks employment and gets it. Who would employ him if they knew his ignorance of the brain's functions? Who would think that he ought to be successful? Who does not know that the public would refuse to employ the physician because of his ignorance of anatomy and physiology; yet that same public employs teachers who are ignorant of that which is essential to success, a knowledge of mental power!

We are led to exclaim, "Inconsistency, thou art a jewel!" Teachers study everything else except the material upon which they work. The carpenter has learned which way to plane his board by the way the grain runs. He has learned how to designate fine or coarse timber by studying the qualities of it. Teachers should be as practical as carpenters; and can be if they will use the light which phrenology reflects. If with its collaterals—anatomy and physiology—give to you the knowledge essential to your success in placing on the material so as to fashion it aright and build up a true life, "Ah!" say they, "you are too indefinite, too enthusiastic; be more specific." We will. Ignorant teachers have a "foot" and a "head" to their classes. Phrenology says that mental capacity differs, therefore the brightest will usually be at the head, while the dullest would be found at the foot, notwithstanding they may study hard. The result is to discourage the inferior and promote those who have been highly endowed by nature. Take a class in mental arithmetic; some need no prompting to acquire a ready knowledge of numbers. Others are dull and do not attain a great amount of accuracy in figures. The teacher scolds and frets, and sometimes gives the same lesson over and over to the dull ones, wondering why they are so stupid! The parents scold and blame the teacher for being so dull. Tit for tat! Phrenology explains it all, showing the teacher his or her ignorance of the human material upon which they work. It says injustice is done by having a class with a head and foot to it. Why? Because by mental power being superior in some and inferior in others, the incentive is not needed by the first class, and the second class are discouraged by such a distinction. Phrenology says that some have Number in large measure, others small, hence the former will excel the latter without much effort. It says to the parent, do not blame the teacher because he, like you, is ignorant of the mental constitution of the child. Can you perceive yet what we mean when we say it is the one thing needful? Phrenology offers to the teacher much that will aid in the work of teaching. Those who study this science will never accuse us of being enthusiastic in its praises, for we feel an inability to give full justice to the science of the brain's functions.

L. EMERICK.

WOMAN'S SPHERE.

If housework is woman's only sphere,
From morning till night, from year to year,
When God created woman and man,
Why didn't He mention it in the plan?

Instead of placing them side by side
In Eden's garden—the man and bride—
Why did He not make a house, and say:
"Eve, there is your place; go there, and stay;

"Put on a dress that will sweep the street;
Adam will blush if you show your feet.
It's very indelicate, you see,
To wear a dress that is short and free.

"Whatever Adam may do or say,
Meekly submit—in silence obey.
Though it may ruin body and soul,
I gave him passions without control—

"And don't forget, whatever *you* do,
That what's right in *him* is wrong in *you*;
What *you* can't do, with honor *he* can;
I will forgive, for *he* is a man.

"In making your waist I made a mistake,
And it will cause you many an ache
To lace it tight and make it look trim—
But Adam won't like you if not slim.

"A mistake, too, in making your hair—
Letting it grow long, flowing, and fair.
Get you some hair-pins—pin it up tight,
Or he will think you a perfect fright.

"You must not go in the sun and the air,
That will spoil your complexion so fair.
There's work in the house for you to do—
That's woman's sphere if she's good and true.

"Minding these rules, if health give way,
Bear it sweetly, and quietly say:
'*Providence* has afflicted me sore—
God calls me to the other shore.'"

If God at first had made things plain,
That woman should be sickly and vain,
Shut up in the house all of her life,
We wouldn't had this contention and strife
About woman's sphere.

—AMANDA PETERSON.

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WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

UNQUIET meals make ill digestions.

"IT is a great evil not to be able to bear an evil."—BION.

THINK for yourself—and think much more than you talk.

HAVE more than thou showest, speak less than thou knowest, lend less than thou owest.

"LET him who neglects to raise the fallen, fear lest, when he falls, no one will stretch out his hand to lift him up."—EDDIN SADI.

"CHOOSE the course which you adopt, with deliberation; but, when you have adopted it, then persevere in it with firmness."—BIAS.

SET your mark high in the world, and then move toward it. Do not wait for somebody to lift you up to the place you aspire to—lift yourself.

No wise or good man ought to account any rules of behavior as below his regard, which tend to cement the great brotherhood of mankind in comfortable union.

THE cultivation of a genial, charitable, benevolent spirit will not injure any of us, and will certainly benefit the community in which we live, and add constantly to the number of our friends.

REV. DR. TALMAGE enumerates, in one of his sermons, five things which are never redeemed in life: (1) the folly of a misspent life; (2) all parental neglect; (3) the unkindness done the departed; (4) lost opportunities of getting good; (5) lost opportunities of doing good.

MIRTH.

"A little nonsense now and then,
Is relished by the wisest men."

ADVICE GRATIS.—A quack doctor advertises to this effect: "Cough while you can; for, after you have taken one bottle of my mixture, you can't."

A WOMAN in a western city recently fell out of a second-story window and struck on her head. She said she didn't know when anything had made her so mad before.

AFTER-DINNER CRITICISM.—Guest (who has had a pleasant evening, will just have a look at his host's pictures before he goes)—"Yesh—hic—'like tha' pictsh're! Fi' landsch'pe! 'Like the treesh! 'Branches wave 'bout s' nash'rally!"—*Punch.*

A MILWAUKEE man made three unsuccessful attempts to blow his brains out, and then his wife told him: "Don't try it again, John; you haven't got any." He goes about now saying he owes his life to that woman.

MCCRISPIN.—"Quite right to get a pair of shoes, Molly, your foot'll look illegant in leather." Molly—"But sure I can't pay for them till Christmas." Mc (after a thoughtful pause)—"Troth, and it's a pity to hide such a purty fut, acushla."

THE papers relate an anecdote of a beautiful young lady who had become blind, having recovered sight after marriage. Whereupon Snooks wickedly observes that it is no uncommon thing for people's eyes to be opened by matrimony.

LITTLE GIRL.—"O, please, sir, I've brought your shirt 'ome, but mother says she can't wash it no more, 'cos she was obliged to paste it up agen the wall, and chuck soap suds at it, it's so tender."

A PROFESSOR was expostulating with a student for his idleness, when the latter said: "It's no use, I was cut out for a loafer." "Well," declared the professor, surveying the student critically, "whoever cut you out understood his business."

"GET out, you ornithorynchus!" The man departed meekly. "Who's that?" inquired a friend of the speaker. "An ornithoryncus." "How's that?" "Well, Webster defines him as a beast with a bill."

HE bought a cheap coat, and he observed next day that it was made of two kinds of cloth, or else it had faded from some previous wear and tear. He went to the dealer with fire in his eyes. The dealer looked at the garment without surprise, and at the wearer with extreme wonder. "Vy, mine goodness!" he said, "you been wear the goat in the sun! You dink him maat of sheet iron, hey!"

THERE was a little gathering the other evening, and a lady, with the desire to chasten the conversation, asked a young man if he had never felt a deep and subtle thrill, a fullness of feeling, so to speak, that reminded him of another life. He said he had once. It was when he was in the country, and the doctor called it cholera morbus, and charged him $4.00 a visit.—*Norwich Bulletin.*

"WHAT would be your notion of absent-mindedness?" asked Rufus Choate of a witness whom he was cross-examining. "Well," said the witness with a strong Yankee accent, "I should say that a man who thought he'd left his watch to hum, and took it out'n's pocket to see if he'd time to go hum and git it, was a *leetle* absent-minded."

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THE POETICAL AND PROSE WRITINGS of Charles Sprague. New Edition. With Portrait and a Biographical Sketch. 16mo, pp. 207; cloth. Price, $1.50. Boston: A. Williams & Co.

The portrait of the author is an impres ive one. Not only is it an engraving of superior excellence, but it also exhibits a character of peculiar nobleness. The head is grandly arched, and the temperament of that finely, delicately, active sort which renders every nerve-fibre keenly susceptible of impressions whether physical or moral. Such a nature can not avoid effervescences of emotion, spontaneous impulses to speak or to work. Mr. Sprague's poetry and prose, therefore, are emotional—portraying "the manners and sensations of men rather than the beauties of nature."

The most notable poem of the collection is "Curiosity," which has a very comprehensive range of moral reflection, picturing human character with a deep appreciation of its many phases. Many of its passages have a singular boldness of grasp coupled with their smooth versification. For instance, on page 2:

"It came from Heaven—it reigned in Eden's shades—
It roves on earth, and every walk invades;
Childhood and age alike its influence own,
It haunts the beggar's nook, the monarch's throne;
Hangs o'er the cradle, leans above the bier,
Gazed on old Babel's tower—and lingers here."

The "Shakespeare Ode," a poem of moderate length, depicts the sentiments which the greatest of dramatists personified, in a spirit which has caught its vein from the Shakespearian muse. Mr. Sprague's shorter poems have given him reputation. One which, "The Family Meeting," is well known to the readers of "poetical selections." So, too, is "The Winged Worshippers." Two addresses conclude the volume; they are entitled "American Independence," and "On Intemperance." They were delivered on public occasions.

THE ORIENT AND ITS PEOPLE. By Mrs. I. L. Hauser, Seven years a Missionary in Northern India. 12mo, pp. 335; cloth. Price, $1.75. Milwaukee: I. L. Hauser & Company.

Of the vast empires of the East with their accumulations of ancient monuments and relics, with their populations embracing as changeful a variety of social and mental character as they are innumerable; there is no limit of the interesting. Each new and well-written volume, from the pen of one who writes his own experiences and observations, is welcomed as a fresh contribution to our Western knowledge of far-away and peculiar peoples. Mrs. Hauser pictures life in India and China as she saw it in the home and on the street, and tells us of things of which we had never read before. She dwells particularly upon the moral and social life of the people—mentioning incidents now and then which show how close were her relations to them.

Her style of narration is clear and flowing; at times, eloquent. In descriptions of beautiful temples, or scenery, Mrs. Hauser, indicates an apt, sympathetic organization. Her observations of Chinese life impress her unfavorably with regard to the extensive progress of Christianity in China, so deeply ingrained are the old prejudices and teachings in the constitution of that exclusive people; yet she doubts not the ultimate fulfillment of the promises of Jehovah. The need of women for missionary work in China is very marked, because the Christian woman can go where the man can not, and can exert an influence which foreign men can not, on account of the bigoted opposition exhibited toward them by the Chinese as a class, and which is not so strongly entertained for foreign women.

RELIGION AND THE STATE; OR, THE BIBLE AND THE PUBLIC SCHOOLS. By Samuel T. Spear, D.D. 12mo, pp. 393. $1.50. New York: Dodd, Mead & Company.

A long consideration of the many questions which have arisen in the course of the agitation which has occupied so much of the attention of the American people on the subject of the Bible in the schools, has resulted in the publication of the above entitled volume. Dr. Spear has investigated the laws of States, judicial decisions, and opinions of leading economists, in his endeavor to obtain information, and has succeeded in giving to the world an excellent digest of them, which is accompanied with an elaborate argument advocating the view that the civil authority is properly the protector of civil order only. The inexpediency, or unsuitability of having the State recognize any special religious system is opposed on the ground, mainly, of the impossibility of giving to such recognition an impartial, comprehensive, entirely harmonious character. To impute a particular form of faith to the arm of civil authority is to assign a special

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conscience or standard of morality which, of course, would discriminate between those who are of the same creed and those who are not; and consequently could not avoid a tyrannous infliction now and then. The Divine Right of Civil Government, Christianity and the Common Law, The Guaranty of Religious Liberty, State Constitutions, Taxation of Religious Corporations, Sabbath Legislation, the Civil Oath, are among the subjects which Dr. Spear discusses with candor and abundant illustration. And in examining his numerous quotations the reader may be surprised to learn how much of religious philosophy there is incorporated in our State and national constitutions.

ELSIE'S MOTHERHOOD: a Sequel to "Elsie's Womanhood."—By Martha Finley (Farquharson), author of "The Story of Elsie," "Wanted, a Pedigree," "Old-Fashioned Boy," etc. Small 12mo, 376 pp. Muslin, $1.50. New York: Dodd & Mead.

By request of Elsie's admirers, the author was induced to continue the lady's history; and, since Elsie was born and raised at the South, and suffered with others from the effects of the late war, it was suggested that this should depict the operations of the Ku-Klux. With this end in view, she consulted the reports of the Congressional Committee of Investigation as the most reliable source of information.

This volume represents Elsie (Mrs. Travilla) in her home, with her children and friends around her, and also affording comfort and assistance to the sad and needy. The story is unfinished—that is, some of the characters and scenes introduced are not disposed of—for instance, her Scotch cousin Lilburn, and George Boyd. The readers will also want to know more about Herbert, and how he was affected by his fall from the bridge, and also whether Meta learned to control her disposition to pry into what did not concern her, and what became of the Fosters, the Lelands, Sally Ann, and others. We sympathize with the lecture Mr. Lilburn gave of his favorite weed, and hope he and Mr. Dinsmore discontinued its use. Elsie has great faith in the efficacy of prayer, and little Violet very naturally resorted to that, and prayed that her father would come and take her home, when she awoke from her somnambulistic spell and did not know where she was nor the way to get back home.

MAGAZINES AND PERIODICALS RECEIVED.

NATIONAL REPOSITORY is the new title adopted by Dr. Curry as a substitute for that of "The Ladies' Repository," so long known to the higher literature of Methodism in this country. The first number of the *National Repository* is a good beginning for the year 1877. Its admirable illustrations and good reading matter should give it currency not only among the religious class it represents, but among reading people generally. If Dr. Curry keeps up the magazine to the standard of his first issue, he will prove an admirable "resurrecter."

MICRO-PHOTOGRAPHS IN HISTOLOGY, Normal and Pathological—No. 6, Contains 4 photo-engravings of morbid conditions, viz.: Amyloid infiltration of the Kidney, Hyaline casts (Bright's Disease), Uric Acid, Triple Phosphate. J. H. Coates & Co. are publishers, Philadelphia.

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THE PHRENOLOGICAL CHARACTERISTICS OF LORD MACAULAY, INFERRED FROM HIS WRITINGS.

THE following extracts, illustrative of the phrenological characteristics of Lord Macaulay, are collected chiefly from the two volumes of his life and writings, edited by his nephew, and occur generally in the order which is observed in this sketch. We

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have thought it advisable to sustain our opinions by copying several passages relevant to each of the faculties, so that they may be amply supported. In more than one instance, however, we have omitted quotations, for the powers referred to are so evident throughout Macaulay's writings, that it seemed sufficient to refer to them in the aggregate. We think this arrangement will prove satisfactory and convincing to all who are acquainted with the eminent subject of our consideration.

Lord Macaulay was born in 1800. His biographer informs us (p. 117, Vol. I.) that "Macaulay's outward man was never better described than in two sentences of Praed's introduction to Knight's *Quarterly Magazine*. 'There came up a short, manly figure, marvellously upright, with a bad neckcloth, and one hand in his waistcoat pocket. Of regular beauty he had little to boast; in faces where there is an expression of great power, or of great good humor, or both, you don't regret its absence.' His picture," says the biographer, "in which every touch is correct, tells all there is to be told. He had a massive head, and features of a powerful and rugged cast. * * * When he rose from the table he was seen to be short and stout of figure."

The latter portion of this paragraph is corroborated by several other witnesses, and there can be very little doubt that the representation is a good one, and correct. Macaulay appears to have possessed a vigorous constitution, for there is no instance related, in the biography, of his ever being seriously ill, and he seems to have enjoyed good health during the whole of his life. His death was rather a decline of all the powers, than an abrupt termination by sudden disease or protracted disposition. The point involved here is valuable and should be noted.

On p. 120 the author says: "As far back as 1826 Crabb Robinson gave a very favorable account of his demeanor. I went to James Stephen and drove with him to his house at Hendon. A dinner party. I had a most interesting companion in young Macaulay, one of the most promising of the rising generation I have seen for a long time. He has a good face—not the delicate features of a man of genius and sensibility, but the strong lines and well-knit limbs of a man sturdy in body and mind. Very eloquent and cheerful. Overflowing with words and not poor in thought."

In some particulars these expressions support the preceding, and from all the evidence in the volumes before us, we feel justified in stating Macaulay's temperament to have been favorably blended of the vital, mental, and motive, with perhaps a greater proportion of the vital. This combination infused into his mind the qualities of power, endurance, and activity. We are told, "From the time that he was three years old, he read incessantly. * * * He did not care for toys, but was very fond of taking his walk." The principal faculties indicated by this statement are, a great endowment of Form, Eventuality, large Locality, and strong executive elements, Destructiveness particularly. The organ of Form is necessary to enable a child to learn the alphabet easily; and when we remember that Macaulay read from the time he was three years old, we may be certain that his faculty of Form was much above the average in size. Besides the organ of Form, his incessant reading is indicative of an insatiable thirst for knowledge, which in his case was due to very large Eventuality and Language. These organs and their faculties are the distinguishing characteristics of Macaulay's mind, and are the foundation upon which his literary fame rests in a special sense. His fondness for taking his walk, besides having reference to physical conditions, also indicates the faculty of Locality in a state of action, and our analysis will show that he possessed the organ largely developed. His not caring for toys, as is stated, is a sign of several of the other intellectual faculties being less active than Eventuality. His anxiety for information was paramount.

The biographer further tells us that "His memory retained, without effort, the phraseology of the book which he had been last engaged on."

Very large Language was the source of Macaulay's powerfully retentive memory of

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words, to which the foregoing quotation refers. Macaulay's mother informs upon this point, that "he was so fired with reading Scott's 'Lay,' and 'Marmion,' the former of which he got entirely, and the latter almost entirely, by heart; this was when he was not eight years old."

In the above passage very large Language is again implied, and the testimony bespeaks a prodigious memory of words. His mother further says: "He had composed I know not how many hymns." * * * Language would be the principal factor in Macaulay's composition of hymns; but as no examples are given, it can not be correctly inferred as to their real nature. The following letter is one of the first to be met with in Macaulay's correspondence; it therefore merits particular attention:

"SHELFORD, *April* 20, 1813.—Everything now seems to feel the influence of spring. The trees are all out. The lilacs are in bloom. The days are long, and I feel that I should be happy were it not that I want home. Even yesterday, when I felt more real satisfaction than I have done for almost three months, I could not help feeling a sort of uneasiness, which, indeed, I have always felt more or less since I have been here, and which is the only thing that hinders me from being perfectly happy. This day two months will put an end to my uneasiness. Fly fast the hours, and dawn the expected morn. Every night when I lie down I reflect that another day is cut off from the tiresome time of absence."

This letter indicates to my mind large Language, for the ideas are aptly expressed. It also indicates moderate Ideality, for there is no apparent attempt to beautify or adorn the expressions. The language is plain. It also indicates moderate observation, the faculty of Individuality, for it enumerates several objects without describing them in detail. It also reflects the influence of Continuity, or Concentrativeness, for it relates the principal object of the writer's mind in a continuous, connected, and uniform manner throughout. Order and Eventuality are also portrayed. But the principal feature referred to is the feeling of Inhabitiveness, which on several subsequent occasions manifested itself strongly. The love of home is conspicuous in Macaulay's writings, and the faculty must have been powerful in his mind. The letter anticipates the future, and therefore suggests the influence of Hope, or hopefulness. The following letter is from the same pen:

"SHELFORD, *August* 14, 1813.—I must confess I have been a little disappointed at not receiving a letter from home to-day. I hope, however, for one to-morrow. My spirits are far more depressed by leaving home than they were last half year. Everything I read or see brings it to my mind. You told me I should be happy when I once came here, but not an hour passes in which I do not shed tears at thinking of home. * * * Tell me in your next expressly, if you can, whether or no there is any likelihood of my coming home before the holidays." * * * Again, in this letter, written four months after the preceding one, we find the same longing for home which can only be referred to large and active Inhabitiveness, or the love of home and country.

Macaulay's biographer communicates the fact that the "secret of his immense requirements lay in two invaluable gifts of nature—an unerring memory and the capacity for taking in at a glance the contents of a printed page."

This statement supports our previously-expressed ideas, and unmistakably indicates that Macaulay possessed a very large organ of Form. He also refers to his uncle's retentive memory of words and events—the functions of Language and Eventuality.

The biographer further narrates that "at one time of his life Macaulay was known to say, that if by some miracle of vandalism all copies of 'Paradise Lost' and the 'Pilgrim's Progress' were destroyed off the face of the earth, he would undertake to reproduce them both from recollection when a revival of learning came."

No doubt Macaulay could have sustained the assertion; and although the necessity never occurred, other remarkable feats of memory were performed which corroborates the opinion that his faculties of Eventuality and Language were developed in a surprising degree.

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It is declared "that Macaulay's extraordinary faculty of assimilating printed matter at first sight remained the same through life. To the end he read books faster than other people skimmed them, and skimmed them as fast as any one else could turn over the leaves."

A powerful organ of Form would confer such talent as is here asserted; but besides Form, probably in this case, Locality, Size, and Order were likewise concerned in the great facility spoken of. This analysis supports the conclusion and tends to prove that these faculties were prominent features of Lord Macaulay's character.

"SHELFORD, *May* 8, 1813.— * * * Mathematics suit me. I began the second book of Euclid to-day. * * * Before I came here I declaimed against them." * * * On page 90 Macaulay writes: "I often regret, and even acutely, my want of a Senior Wrangler's knowledge of Physics and Mathematics." * * *

CAMBRIDGE, post-marked 1818.—"I can scarcely bear to write on mathematics and mathematicians. Oh, for words to express my abomination of that science." In these citations we have two opinions expressed by Macaulay. On May the 8th he writes: "Mathematics suit me;" afterward he declares his abomination of them. Of course, his first opinion on the subject was immature. He had only gone through the first book of Euclid and could have formed no comprehensive judgment of the science. His limited knowledge of Physics, and dislike of Mathematics, are in perfect harmony with what we believe, and have strong reasons for assuming what was his mental conformation. The principal faculty required in the study of Physics is Individuality, and the whole of Macaulay's writings conclusively prove that the author possessed the faculty in only an average degree, compared with other powers. No one, therefore, who understands the Philosophy of Mind will be surprised at Macaulay's regretting the want of a Senior Wrangler's knowledge of Physics. The higher mathematics, on the other hand, so uncongenial to Macaulay, require large Causality, the foundation of reasoning from cause to effect, and the basis of metaphysics; and we are forced to the conclusion, by comparing his writings, that the organ of Causality was by no means so large, nor the faculty so powerful as several others he possessed. It should be observed here that Macaulay did not refer to arithmetic when he spoke of mathematics, for we shall see that he was an able arithmetician. Other faculties are said to assist Causality in the study of the higher mathematics, which can not be assigned in a high state of development to Macaulay.

Mr. Trevelyan relates that "He was unhandy to a degree quite unexampled in the experience of all who knew him. When in the open air he wore perfectly new dark kid gloves, into the fingers of which he never succeeded in inserting his own more than half way. After he sailed for India there were found in his chambers between fifty and sixty strops hacked into strips and splinters, and razors without beginning or end. About the same period he hurt his hand, and was reduced to sending for a barber. After the operation he asked what was to pay. 'Oh, sir!' said the man, 'whatever you usually give the person who shaves you.' 'In that case,' said Macaulay, 'I should give you a great gash on each cheek.' The whole of this passage, we think, implies small Constructiveness. It may, however, be indicative of large Destructiveness also. The story illustrates as well Macaulay's large Wit; but Benevolence, no doubt, suggested a more humane way of discharging the debt incurred, than that so promptly reduced to words. Small Constructiveness, and other organs of the intellect are further exposed, for the biographer assures his readers that Macaulay 'could neither swim, nor row, nor drive, nor skate, nor shoot.'"

On p. 121 Mr. Trevelyan says: "He loved to place his purse, his influence, and his talents at the disposal of a friend; and any one whom he called by that name he judged with indulgence, and trusted with a faith that would endure almost any strain."

Benevolence was a strong sentiment in Macaulay's mind, and when acting with fully-developed Friendship and less Ac-

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quisitiveness, it would produce all that is affirmed here.

Page 125, "After dinner," says Lady Trevelyan, "he always walked up and down the drawing-room between us, chatting till tea time. Our noisy mirth, his wretched puns, so many a minute, so many an hour. * * * Then we sang—none of us having any voice — and he, if possible, least of all." * * *

Apparently Macaulay had a very moderate endowment of the organ of Tune, and, consequently, no ability as a musician. The punning exemplifies his Mirthfulness, but specially the exercise of Language, Comparison, and Eventuality.

On p. 130, "He had," says his biographer, "no notion whatever of music, but an infallible ear for rhythm. His knack of improvisation he at all times exercised freely."

Large and powerful Time would give a quick ear for rhythm. Improvisation would result from large Language, Mirthfulness, and Comparison, prompted by his active feelings.

On p. 253 Macaulay asserts: "It is not necessary for my happiness that I should sit in Parliament; but it is necessary to my happiness that I should possess the consciousness of having done right."

Up to the present time we have dwelt extensively on Macaulay's intellectual powers; now we perceive an illustration of a predominant moral sentiment, that of Conscientiousness, which produces the feeling of obligation to do right, and this sentiment, we are fully convinced, was one of the leading traits in Macaulay's character. His honesty and integrity of purpose can at no time of his career be questioned. Every act of his life we feel sure partook of principle when it was possible for Conscience to enter into his conduct. His judgment might, and often did, lead him wrong, but we maintain that his intentions were always above suspicion. The love of right seems to have exerted a controlling influence over his mind.

On December 5, 1833, Macaulay wrote from London to Lord Lansdowne: "An opportunity has offered itself. It is in my power to make the last days of my father comfortable, to educate my brother, to provide for my sisters, to procure a competency for myself. I may hope by the time I am thirty-nine or forty to return to England with a fortune of £30,000. To me that would be affluence, I never wish for more."

The whole of this letter breathes the spirit of Benevolence, Conscientiousness, and Hope, with some amount of Veneration. Indeed, the impress it bears is characteristic, and illustrates the active presence of the higher moral sentiments in conjunction with the inferior feelings, but these are subjected and pressed into the service of very large Benevolence, and the love of right. Whoever has read the Life of Macaulay will agree with the conclusion, that generosity and justice were two of the leading springs of his conduct in his public and private intercourse.

On p. 316 he says: "The particular part of literature which interests me most is history; above all, English history."

This paragraph is parallel with all the preceding upon the same subject, and refers to the predominant power of Macaulay's mind. His Eventuality, which is understood in his preference for English history, was the supreme faculty upon which he created and sustained his world-wide renown. His genius was pre-eminently in the department of history. This faculty was the source and centre of his thirst for knowledge through reading, which craved satisfaction for over fifty years, from the time he was three years of age till death removed him. Few men of any age have been endowed with a memory more capacious or serviceable. The above sentence indicates also the activity of Inhabitiveness and Self-esteem.

P. 372, writing from India, Macaulay says: "I have no words to tell you how I pine for England, or how intensely bitter exile has been to me, though I hope I have borne it well. I feel that I have no other wish than to see my country again, and die. Let me assure you that banishment is no light matter. No person can judge of it who has not experienced it. Complete revolution in all the habits of life; estrangement from

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almost every old friend and acquaintance; fifteen thousand miles of ocean between the exile and everything that he cares for; all this is, to me at least, very trying. There is no temptation of wealth or power which would induce me to go through it again. But many people do not feel as I do."

In the first letter we have transferred to these pages, we discovered the same feeling exhibited as in this from India. Inhabitiveness is here obvious throughout, in combination with Friendship. The letter appears to demonstrate the supposition that Acquisitiveness and other inferior feelings were held in subordination, and controlled by superior forces.

CALCUTTA, *May* 30, 1836.—In a letter to his friend Ellis, Macaulay expresses himself thus: "You are so rich in domestic comforts that I am inclined to envy you. I am not, however, without my share. I am as fond of my little niece as her father. I pass an hour or more every day in nursing her, and teaching her to talk."

On very many occasions he showed his love of children, and his interest in them, and the organ of Love of Young was surely prominent.

"CALCUTTA, *November* 30, 1836.—As to Latin, I made a heroic attempt on Pliny's 'Natural History;' but I stuck after getting through about a quarter of it." * * *

When the few preceding lines are interpreted consistently with what has been advanced, it will be observed that they substantiate our views of Macaulay's deficiency of those faculties which are essential to the successful study of natural history. We have previously stated that his organ of Individuality seemed to be only moderately developed. This organ plays a very important part in the capacity for physics and natural history; indeed, it is indispensable in those spheres of literature. It was Macaulay's deficiency of this faculty which led him to express regret at his want of a knowledge of Physics. Throughout his writings he displays comparatively little of the qualities which the student of the natural sciences requires. The above characteristic expression as to being "stuck," indicates no more than a full development of Firmness, the faculty of which is perseverance, persistency, and power to pursue a subject and accomplish an undertaking after it has been commenced, although uncongenial to the inclinations. If the organ and faculty of Firmness had been very potent in Macaulay's character, we think he would have persisted in reading Pliny's "Natural History" completely through, instead of allowing himself to be overcome by the difficulties he encountered. The tenor of these latter observations is partially sustained by remarks of Mr. Trevelyan.

In the second volume of the Biography, in a letter to Mr. Napier, we read: "There are extensive classes of subjects which I think myself able to treat as few people can treat them." * * *

Unless we very much mistake, the above sentence was prompted by energetic Self-esteem. Very active Self-esteem loves to compare one's self with others, and to feel quite satisfied with the result. Lady Trevelyan says: "I have always thought that your uncle was incomparable in showing a town, or a place where any famous event occurred, but that he did not care for scenery, merely as scenery." * * *

There is no doubt that these expressions were called forth by Macaulay's own actions, and, probably, his opinions. The language harmonizes with what we have observed in his various reviews and criticisms. The phraseology of the quotation above indicates a moderate endowment of Ideality, and if our judgment has been wisely formed, we shall be right in affirming that Macaulay had no great passion or admiration for either nature or art. Neither his prose nor verse displays a great, or even a large, measure of Ideality. On some occasions he rises to his subject with great animation, and a fair share of poetic inspiration; but we can not trace that impassioned eloquence inseparable from a great endowment of Ideality.

As to Macaulay's taste, we infer from his large organ of Form, that it would impart the perception and appreciation of beauty of form and outline, as well as a strong recollection of persons and things seen, and also the perception of resemblances and

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family likenesses. That such, indeed, was Macaulay's tact, the reader may judge from our subject's own declarations. In his review of the "Life of Lord Holland," we read: "It is impossible not to be struck by the strong family likeness which, in spite of diversities arising from education and position, appears in these three distinguished persons (Lord Holland, and his father and grandfather); in their faces and figures there was a resemblance: * * * the ample person; the massy and thoughtful forehead; the large eyebrows; the full cheek and lip; the expression was singularly compounded of sense, humor, courage, openness, a strong will and a sweet temper were common to all." These striking remarks, we think, are apt.

In the following passage the reader will discern a confirmation of the suggestion that Macaulay's faculty of Ideality was not very prominent. His biographer says: "Compared with the wealth of phrases, on which he could draw at will when engaged on a description of human passions, catastrophes, and intrigues, his stock of epithets applicable to mountains, seas, and clouds, was singularly scanty; and he had no ambition to enlarge it."

His nephew in this extract thinks it singular that with Macaulay's great gift of language, he had not a larger vocabulary to describe scenery. Phrenology, however, disposes of the apparent anomaly, for Language is mainly the mouth-piece of the larger organs; and, therefore, even this celebrated historian could only express himself fluently and elegantly upon those subjects which interested his predominant qualities.

Macaulay had a small organ of Tune, and, consequently, his vocabulary connected with musical compositions must have been more scanty than it was respecting mountains and clouds. He had no facilities for describing an opera or an oratorio, as to the qualities of harmony. His faculty of expression found an ample field for exercise combined with Eventuality and other powers. We find the following in his Life:

"CHALONS, SUR-SAONE, *Tuesday, October* 23, 1838.—The road from Autun is for some way more beautiful than anything I had yet seen in France; or, indeed, in that style anywhere else, except perhaps the ascent to the table-land of the Neilgherries. I traversed a winding pass, nearly two miles in length, running by the side of a murmuring brook, and of winding hills, covered with forest. The landscape appeared in the richest coloring of October under a sun like that of an English June. The earth was the earth of autumn, but the sky was the sky of summer. The foliage — dark green, light green, purple, red, and yellow — seen by the evening sun, produced the effect of the plumage of the finest Eastern birds. I walked up the pass exceedingly pleased. To enjoy scenery you should ramble amidst it; let the feelings to which it gives rise, mingle with other thoughts; look round upon it in intervals of reading, and not go to it as one goes to see the lions feed at a fair. The beautiful is not to be stared at, but to be lived with." * * *

This passage is inserted to give the reader an idea of Macaulay's descriptive powers. The whole narration is chiefly noticeable for the sign of moderate Ideality, Sublimity, and Individuality. If Ideality and Sublimity had been powerful, a description of the country such as that referred to, would have been embellished with the beauty of Ideality and the lofty splendor of Sublimity. Instead of cool and circumstantial recital, there would have been rapture, ecstasy, and emotion. If large Individuality had been added, not only would the style have been elevated, but the scene would have appeared graphic and real.

Wednesday, October 31.—Speaking of the streets of Genoa, Macaulay says: "Never had I been more struck and enchanted. There was nothing mean or small to break the charm, as one huger, towering palace succeeded to another. True it is that none of these magnificent piles is a strikingly-good architectural composition; but the general effect is majestic beyond description. Next to the palaces, or rather quite as much, I admired the churches. Outside they are poor and bad, but within they pleased and dazzled me more than I can express. It was the awakening of a new sense; the discovery of an unsuspected pleasure."

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The indefinite character of this description is rather remarkable. The style of the composition is more elevated than many of Macaulay's, and seems to indicate more sublimity than the preceding selections. He appears to have had a higher appreciation of architecture than of natural scenery, of art than nature; this would arise, we think, from his very large Form, well developed Size and Color. His great love of history would contribute to the relish for palaces, cathedrals, and churches and other buildings historically connected with important events.

November 14.—"Up at half-past four. The sun triumphed over the mist just as I reached Narni. The scenery was really glorious, far finer than that of Matlock on the Wye, in something of the same style." * * * Here again we perceive more Sublimity than Ideality, and the tendency, as before, to compare one place with another.

In speaking of St. Peter's at Rome, Macaulay says: "*November* 15. In I went, and I was for a moment fairly stunned by the magnificence and harmony of the interior. I never in my life saw, and never, I suppose, shall I again see, anything so astonishingly beautiful. I really could have cried with pleasure. I rambled about for half an hour or more, paying little or no attention to details, but enjoying the effect of the sublime whole."

In his own language Macaulay repeats our ideas, and it is evident, if he paid much attention to the details, he did not write much about them. In his article on John Milton the author says: "In proportion as men know more, and think more, they look less at individuals and more at classes." This opinion was not inspired by large Individuality, and if it were true, the time would come when single things would be disregarded altogether.

The passage referring to St. Peter's shows the effect of Sublimity and the larger intellectual powers, but not predominant Ideality.

Thursday, June 11.—"How profoundly domestic comfort has altered my whole way of looking at life! I have my share of the anxieties and vexations of ambition; but it is only a secondary passion now." * * * This reference suggests large Approbativeness—anxiety about reputation and popularity. "There are people," says Macaulay, "who can carry on twenty works at a time. * * * But I am of a different temper. I never write to please myself until my subject has for the time driven every other out of my head. When I turn from one work to another, a great deal of time is lost in the transition." We have elsewhere stated that Macaulay manifests large Continuity in his writings, and in these words he supplies a corroboration of that estimate.

Writing of Macaulay as a speaker, a gentleman on the London *Times* said, "His action—the little that he had—was rather ungainly." "He used scarcely any action," are the words of a writer on the *Standard*. * * * "He spoke with great rapidity, and there was little inflection in his voice, which, however, was not unmusical." * * *

Mr. Downing, of the *Daily News*, says of Macaulay: "Vehemence of thought, vehemence of language, vehemence of manner, were his chief characteristics. * * * This vehemence and volume made Macaulay the terror of the reporters; and when he engaged in a subject outside their ordinary experience, they were fairly nonplussed by the display of names and dates and titles." * * * These observations indicate large Language, moderate Imitation and Tune, with large Eventuality, Calculation, and Time. The vehemence spoken of was most likely the result of great activity imparted by a vigorous and healthy physique. Further evidence of large Continuity will appear in the following lines, where Macaulay says: "It is one of my infirmities—an infirmity, I grieve to say, quite incurable—that I can not correctly and heartily apply my mind to several subjects together." * * * Continuity disposes a person to attend to one subject at a time, and concentrates the mind.

"Many people," says Lady Trevelyan, "are very fond of children, but he was the only one I ever knew who never tired of being with them." This example, like those formerly related, confirm the notion that the faculty of Love of Young was powerful in

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Macaulay's character. Upon this point he relates: *April* 17, 1858. "In the *Times*, of this morning, there was an account of a suicide of a poor girl, which quite broke my heart. I can't get it out of my thoughts, or help crying when I think of it." Here Benevolence mingled with the former feeling and produced pity and tears.*

Although many illustrations of Macaulay's great Eventuality have been adduced, the following instance is worth observing. In his address, as Lord Rector of the University of Glasgow, it is stated that "he contrived to give point and novelty to his inaugural address by framing it into a retrospect of the history and condition of the University at the commencement of each successive century of its existence." * * * This operation was in entire harmony with Macaulay's disposition.

On the subject of his wonderful memory of words, he has supplied the entry in his journal of *August* 16, 1849: "We sailed as soon as we got on board. * * * As I could not read, I used an excellent substitute for reading. I went through 'Paradise Lost' in my head. I could still repeat half of it, and that the best half." No man without very large Language, and the faculty energetic, could have performed so great a feat of memory.

October 25, 1849, Macaulay enters in his journal: "My birthday. Forty-nine years old. I have no cause of complaint. Toler able health; competence; liberty; leisure very dear relatives and friends; a great, I may say, a very great, reputation. * * * As to fame, it may fade and die, but I hope that mine has deeper roots. Thus I can not but perceive that even the imperfect articles which I wrote for the *Edinburgh Review* are valued by a generation which has sprung up since they were first published. While two editions of Jeffries' 'Papers,' and four of Sidney's, have sold, mine are reprinting for the seventh time. Then as to my 'History,' there is no change yet in the public feeling of England. I find that the United States, France, and Germany confirm the judgment of my own country. I have seen no less than six German reviews, all in the highest degree laudatory. * * * The applause of people at Charlestown, people at Heidelberg, and people at Paris, has reached me this very week; and this consent of men so differently situated leads me to hope that I have really achieved the high adventure which I undertook, and produced something which will live. What a long rigmarole; but on a man's birthday a man may be excused for looking backward and forward."

If any doubt had previously existed as to Macaulay's Self-esteem and Love of Approbation, this rather egotistic and adulatory recitation would suffice to dispel it. It is quite evident that he neither underestimated his own abilities nor despised the applause of his fellows. The two faculties named seem to have been both very influential, and therefore the organs were prominent. It is rather surprising, that with so much Conscientiousness as he was the possessor of, that he should express the influence of those feelings so unequivocally. Perhaps the sentiments were never meant for the public gaze.

Again he tells us: "There is merit, no doubt, in Hume, Robertson, Voltaire, and Gibbon. Yet it is not the thing. I have a conception of history more just, I am confident, than theirs." Self-esteem again betrays itself, and once more rises to the sur-

* Macaulay never married. This may appear somewhat inconsistent with the attributions of large Inhabitiveness, Conjugality, Parental Affection, and Amativeness, as indicated in his portrait. That he was intensely fond of domestic life is attested by many passages in his life, and by statements in his letters, some of which Mr. Turner quotes. Perhaps a paragraph in another letter to Lord Lansdowne furnishes a solution of the matter, viz.:

"A family which I love most fondly is dependent upon me. Unless I would see my father left in his old age to the charity of less near relations, my youngest brother unable to attain a good professional education, my sisters, who are more to me than sisters ever were to a brother, forced to turn governesses or humble companions, I must do something," etc.

His Benevolence was, as has been stated, a very influential organ, and working in association with his domestic sentiments and, probably Approbativeness, led to this determination.

The sacrifice of the marital relation on his part, however, was richly compensated by the devoted affection of his sisters, with whom he found a degree of home happiness rarely experienced by the married, besides being the better enabled by his bachelor leisure to carry into execution his literary and political aims.—ED. P. J.

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face, in a comparison of himself with other writers, to their disadvantage.

January 12, 1850.—"How little the all-important art of making meaning pellucid is studied now. Hardly any popular writer, except myself, thinks of it. * * * Many readers give credit for profundity to whatever is obscure, and call all that is perspicuous shallow; but Coraggio! I think of A.D. 2850, where will your Emersons be then? But Herodotus will be read with delight. We must do our best to be read, too." Pride and ambition are again thrown into bold relief; and many more extracts could be produced which leave no room to doubt that Self-esteem and Approbation occasionally walked forth abroad when higher and nobler sentiments slumbered in comparative obscurity.

When dining at Windsor Castle, Macaulay says: "I got on as well as I could. The band covered the talk with a succession of sonorous tones. 'The Campbells are Coming' was one." In a foot-note the biographer states that "this is the only authentic instance on record of Macaulay's having known one tune from another."

We are told that "he had an eye for sight-seeing." Locality was evidently one of his larger organs, for we read accounts of a great number of excursions at various periods of his life; and in the preparation of his history he found it necessary to revisit numerous localities to verify statements and descriptions. The remark that he had an eye for sight-seeing is therefore well authenticated.

May 1, 1856.—"The change draws very near. After fifteen happy years passed in the Albany I am going to leave it. * * * To-morrow I take my final leave of this room, where I have spent most of the waking hours of so many years. * * * I hate partings. To-day, even while I climbed the endless steps, panting and weary, I thought that it was for the last time, and the tears would come into my eyes. * * * Everything that I do is colored by the thought that it is for the last time." These rather pathetic allusions are referrable to large and acute Inhabitiveness, combined, doubtless, with Eventuality, which would vividly recall the past and flood the writer's mind with innumerable pleasant recollections.

"I have a great turn for finance, though few people would suspect it. I have a pleasure in carrying on long arithmetical operations in my head. I used to find amusement, when I was Secretary at War, in the army estimates. I generally went through my pecuniary statements without book, except when it was necessary to come to pence and farthings." Calculation is the predominant faculty indicated in this entry, and it was probably aided by Form, Size, Locality, and Order. Further proof of Macaulay's talent as an arithmetician is to be seen in his review of Sadler's "Law of Population." That criticism is powerfully sustained both by arguments and numbers, in which Macaulay defends the ideas of Malthus.

In a letter to his friend Ellis, he writes: "I went yesterday to Weybridge. We talked about the habit of building castles in the air, a habit in which Lady Trevelyan and I indulged beyond any people that I ever knew." Large Hope must be allotted to both Macaulay and his sister, if the language above is to be assigned to its appropriate faculty. It is highly reasonable to infer that Hope was an active element in his character, for an opposite state of mind has not been discovered. If this conclusion be sound, his faculty of Cautiousness operated favorably on most occasions, and the fact is that no indications appear of inordinate Cautiousness.

All the most salient and pronounced characteristics contained in the Life of Macaulay have, up to this point, been selected: but there are some traits which it may not prove uninteresting to illustrate further. One, Comparison, is an endowment concerning which, we think, Macaulay's writings guarantee the assertion, that it is to this faculty, in a great measure, his writings owe much of their charm and effect. A vast array of examples might be paraded from his "Essays," in which the happy effect of illustrations and inductive reasoning appear to the best advantage. As a critic and reviewer he is, indeed, unsurpassed, and his brilliant powers in this respect he owed to

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large organs of Combativeness, Destructiveness, Wit, and Comparison. As a striking proof, and but one out of a thousand equally pertinent, we select this from the essay on Warren Hastings: "'Paint me as I am,' said Oliver Cromwell, while sitting to young Lely. 'If you leave out the scars and wrinkles, I will not pay you a shilling.'" * * * Macaulay says, "If men truly great knew their own interest, it is thus that they would wish their minds to be portrayed."

This illustration of powerful Comparison we take to be admirable. The association of Comparison with large Language made him a natural philologer. There is probably no writer in the English language whose diction is more perspicuous, or whose style is more effective.

Macaulay's logical gift can not be spoken of so highly as his analogical. From a careful reading and study of most of his writings, our confirmed opinion is that the organ of Causality was not so large as his Comparison, Eventuality, or Language. Causality was not more than full, while his Eventuality and Language were very large, and Comparison larger than Causality. A comprehensive survey will be adequate to convince the reader that Macaulay's ability was especially as an historian and reviewer of writings closely connected with history and biography. It is true he has penned several argumentative articles, and his criticisms on Sadler's "Law of Population," the "Utilitarian Theory," and Gladstone's "Church and State," all of which are very forcible and apparently conclusive; but his genius was not in the field of logical polemics. On few occasions does he display that profound depth, acuteness, and originality which the acknowledged great thinkers of the world have stamped upon their age. And he confesses that he could not understand Kant.

Neither was he physically constituted a great thinker. He was deficient in the degree of Individuality and Causality requisite to qualify himself for that distinction. Constitutionally he had too much of the vital temperament for the display of great depth of thought. It will be remembered that several witnesses agree that Macaulay was stout and fleshy, and here, in support of our premises, occur the lines of Shakespeare, where Cæsar says: "Let me have men about me that are fat; sleek-headed men, and such as sleep o' nights. Yond' Cassius has a lean and hungry look; he thinks too much; such men are dangerous."

The logical faculty seems in many men to have been associated with less of the vital temperament than it appears Lord Macaulay could boast.

So far as published testimony appears, it is impossible to affirm that his religious sentiments were so large or active as his literary faculties. There is not the slightest doubt, however, as to his belief in the Deity as a Being of goodness, for he asserts this himself in his "Essay on Sadler's Law of Population:" "Whoever, therefore, believes, as we do most firmly believe, in the goodness of God, must believe that there is no incompatibility between the goodness of God and the existence of physical and moral evil." Again in the article on Gladstone's book: "It is of much more importance that the knowledge of religious truth should be widely diffused than that the art of sculpture should flourish among us."

From these and many other allusions, it is safe to say that the religious sentiments of Macaulay exerted a salutary influence over his mind. But it may also be asserted with confidence that the influence of those sentiments was not of paramount and commanding sway. They were not the leading powers of his mind.

The literary merits of Lord Macaulay have received the highest praise from all classes of writers wherever his name is known. But it appears to us that few, if any, of the critics have observed one of the essential elements of his success, that one which we conceive has contributed in a very sensible degree to sustain and extend his reputation. We mean the influence which is imparted by large size of brain. At the commencement of this article we have cited the language of Mr. Trevelyan, in which he says that his uncle had a massive head.

But independently of this hint we are sure the writings of this illustrious author exhibit more than ordinary power of mind—

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that subtle constituent which Phrenology ascribes to great size as distinguished from activity. No one, we think, can read the works of Macaulay without being struck by the quality referred to. Many writers have handled the same subjects as he, but none that we know of has thrown into his work more force, vivacity, and energy. At times, indeed, his arguments are neither sound nor successful, still they are seldom dry and uninteresting. In treating on those subjects specially adapted to his powers, he is unsurpassed, and on many occasions his eloquence is really splendid. He has infused into language so much vigor, liveliness, and appropriate expression, that it may be a long time before thoughts shall be conveyed from one mind to another by an intellect so powerful and intense.

THOS. TURNER.

A GLIMPSE OF ROCKY MOUNTAIN SCENERY.

ONE who has seen some of the glories of the Rocky Mountain country, never wearies of their repeated portrayal. The scenes, which pass in quick succession as the traveler on the Pacific Railway courses through valleys, over rivers, on the verge of seeming precipices, through tunnels and cañons, and over peaks which now and then command wide reaches of varied prospect, impress themselves deeply upon the memory of the lover of nature, and in after-time an allusion or a print will bring to his mental view with vivid freshness the more striking of his experiences in that region. Among the foot-hills and in the lofty Sierras appear



Fig. 1.—Lake Angeline.

to be accumulated the greatest variety of grand, terrific, and gorgeous effects which it were possible for groupings of rock, tree, and water to produce. It is not strange that some of the best of our landscape paint-

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ers have spent years among the Rocky Mountains engrossed in the labor of putting upon canvas the frowning peak, the roaring cataract, the snow-clad summit, with their accompaniments of sky and tree, bush and flower. Mr. Bierstadt has brought to the East some glimpses of nature's penciling upon mountain and valley, which have done much toward instructing us, who have not the time to travel, with regard to the wonderful character of those mountain fastnesses. So, too, Mr. F. A. Church and Mr. Moran have exhibited power and discrimination in their accurate renderings of the American Highlands.

When about eight hundred miles west of Omaha, on the Pacific Railroad, the traveler or tourist begins to encounter the "foot-hill" country with its peculiar scenic attractions. The rock formations especially attract his attention. Crowning lofty bluffs or knolls, hanging over dizzy heights, in a thousand strange and fantastic shapes they throng the way. Here and there immense masses loom upon the view like surviving pillars of some colossal temple of the past. Green River has many such formations standing along its course; ancient sentinels they seem, challenging the passer-by. One of these is well represented in the engraving.

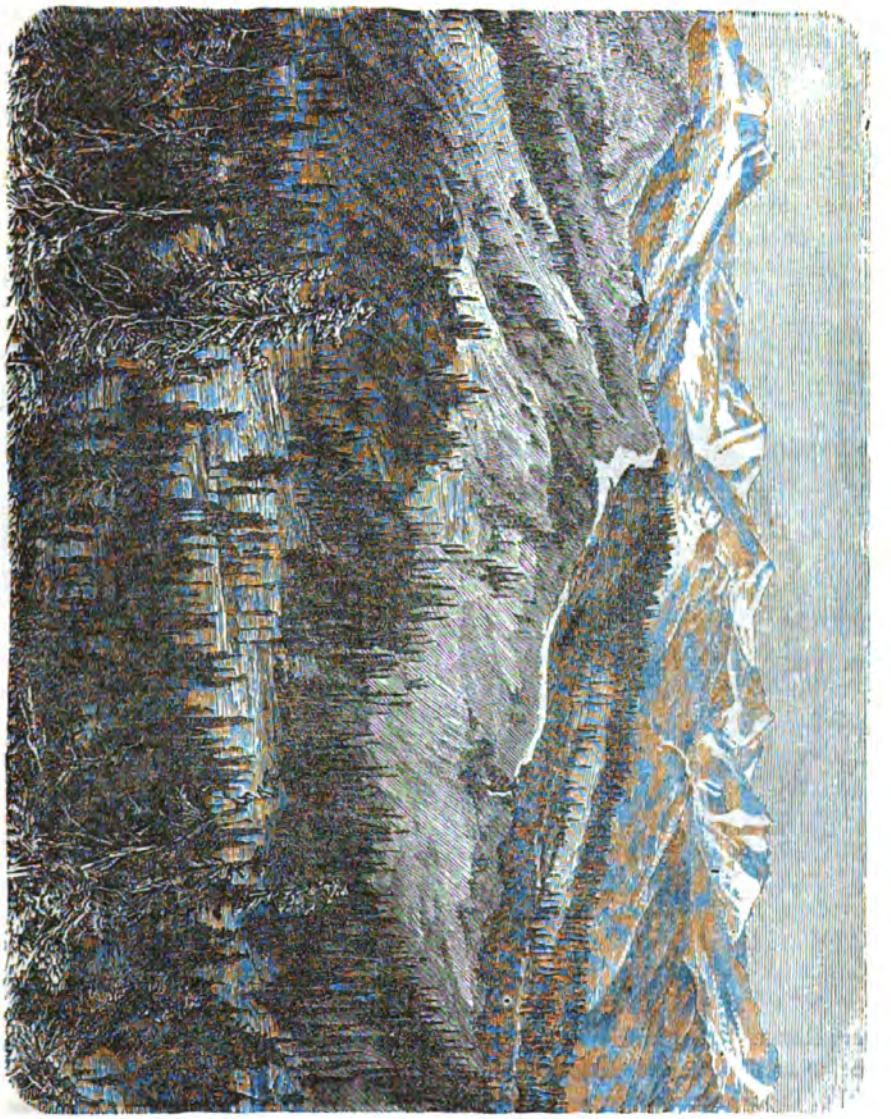


Fig. 2.—Scenery of the Sierras.

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Known as Castle Rock, it crowns a bluff six hundred and twenty-five feet above the river level. Imagination readily invests it with associations of warrior bold and combat fierce; while science calmly points to it as an instance of the wearing, fashioning power of water and sand.

Away on toward the "Golden Gate," and in the Sierras, magnificent views are met on every hand. Ten miles or so from Truckee, at an elevation of 7,000 feet above the level of the sea, one of the most beautiful of lake scenes fascinates the eye. We allude to Lake Angeline. It is in the Summit region, the part of the mountain range where the waters divide, some to flow eastward and be absorbed by desert sand; others to flow westward and mingle with the streams of the Sacramento valley. Here both Bierstadt and Moran have sketched, for there are a thousand charms of light and shadow in the vast heights and depths and forest growths. The mind, illumined with a high æsthetic faculty, here finds exalted gratification in the contrasts of tint and formation, in the play of morning or evening twilight, in the mists clinging to distant peaks or hanging over yawning cañons, in the gloom of the woodland and in the brightness of the sunlit or moonlit lake.



Fig. 3.—Castle Rock.

The large engraving furnishes some hints of the grandeur of the lofty summits which meet the eye of the tourist among the Sierras. Away up in the cloud-land the vegetation is scanty, aside from the pines which skirt or fill the levels. There the snows of the long winter accumulate and provide refreshment for the thirsty land below. In

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the bosom of these mountains nature has hidden some of the most interesting lakes which gem the continent. Lake Esther, Lake Tahoe, Mary's and Pyramid Lakes, are among the more noteworthy. And all bear some part in storing the water which in spring and summer finds its way to the plains hundreds of miles below.

Yosemite Valley needs but its bare mention in this place. Its beauties have been celebrated far and wide by a hundred pens. But new wonders are ever and anon discovered by hunter or tourist in those wild regions. Within a few weeks a valley in the course of King's River has been brought to light, which is said to rival the famous cañon which incloses the Merced. This new acquisition for the mountain-climber and scenery-lover is said to be forty-five miles from Visalia in a right line. The valley is nine miles in length from east to west, and has an average width at the bottom of about half a mile. It lies 5,000 feet above the level of the sea, and its walls are about 3,000 feet high.*

THE PHILOSOPHY OF MORALS.

OUR exchanges frequently contain articles on moral or æsthetic philosophy, the writers of which are evidently guided by a more than superficial knowledge of, and belief in, the principles of Phrenology. Late numbers of the *Rural New-Yorker* have brief treatises of such a character. In the issue of December 9th we find one with the caption above, and feel ourselves warranted in transferring it to these columns by the fact that it is a fair summary of phrenological philosophy. The writer makes special mention, in a foot-note, of two or three of the works by Dr. Spurzheim and George Combe as furnishing most solid material for thought and discussion on the topic he has chosen :

"It is generally conceded that there is more of good than evil in the world ; that each individual, however vile and wicked he may be, does in a lifetime more commendable than reprehensible deeds.

"The causes that impel us to act have been subjects of discussion from the days of Plato and Aristotle to the present time. Different theories have been promulgated, each having strong supporters, many of whom desired to add thereto ideas of their own, until, instead of the original two, there are perhaps two-score, all of which may, as to their general teachings, still be classed as two—the Utilitarians and the Intuitives.

"The first hold that all actions are good or moral as they conduce to the happiness of mankind, and that observation and experience are the only guides we have to aid us in deciding what is right or wrong for us to do, and emphatically deny the existence of any moral faculty or sense which enables us to judge between good and evil, or assures us of any rule of duty, or points out any course of conduct. This party is also known as the Selfish, the Epicurean, and the Inductive, and numbers among its later supporters, Hobbes, Bentham, Mill, and many others.

"The other party, known as the Intuitive Moralists, or otherwise the Stoical, the Sentimental, and the Independent, hold that some innate, natural power, implanted in us by the Creator, enables us to know that such qualities as benevolence, honesty, and truthfulness are virtues, without reasoning or argument, and without examination of their effects on individuals or on society. These views are supported by such writers as Hutcheson, Cudworth, Stewart, Reid, Butler, and others.

"Mr. Lecky, in his history of European Morals, says, 'The business of a moral philosophy is to account for and to justify our moral sentiments, or, in other words, to show how we come to have our notions of duty and to supply us with a reason for acting upon them.' And again, 'A theory of morals must explain, not only what constitutes duty, but also how we obtain the notion of there being such a thing as duty.

* The illustrations are from Williams' "Pacific Tourist," an admirable guide for cross-continental travel.

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It must tell us not merely what is the course of conduct we *ought* to pursue, but also what is the meaning of this word "ought" and from what source we derive the idea it expresses.' Clearly none of the writings of the ablest men on either side of this great question were able to account for our moral sentiment or to explain the meaning of 'ought.' Assertions were plenty, but arguments in the highest degree logical, based on these assertions, failed to convince, because the soundness of the premises was doubted.

"Hobbes says, 'Obligation is the necessity of doing or omitting any action in order to be happy.' Says Bentham, 'Nature has placed man under the government of two great masters—Pain and Pleasure. It is for them to point out what we ought to do, as well as what we shall do.' In Mill's Utilitarianism we read, 'Happiness is the sole end of human action, and the promotion of it is the test by which to judge of all human conduct.' Locke asserts that 'good and evil are nothing but pleasure and pain, or that which occasions and produces pleasure and pain to us.'

"The Intuitive philosophers, on the other hand, are no less positive in their assertions. They deny that there can be any merit or goodness in a selfish action, no matter what may be the result. Cudworth taught that there was some particular faculty of the mind that enabled us to distinguish truth from falsehood; and the different writers of that school, varying as they do as to details, mainly agree with the teachings of Plato, that there is an innate power, whether derived from the experiences and conclusions of a pre-existing state, or specially bestowed upon man by his Creator, which is competent to distinguish between good and evil.

"The believers in Phrenology think they have the true solution of this vexed question. They hold that all things, whether they be physical, organic, or spiritual, are governed by laws, and that these laws, which are innate, universal, and unbending, are in harmony with the whole constitution of man, in which the moral and intellectual powers hold the supremacy. But they do not decide if innate ideas are conferred directly by the Creator, or if they are only the effects of accumulated experiences, inherited from ancestors.

"They teach that the brain is the organ of the mind, and that the different faculties have each a definite location; that concordant faculties are located contiguously, and all may be divided into three classes—the Animal, the Intellectual, and the Spiritual, and these last subdivided into the Idealistic and the Moral. In the latter group, and located in the crown of the head, are Benevolence, Veneration, and Conscientiousness; that the office of Conscientiousness is to incite man to the performance of that which he believes to be right, leaving it for the Intellectual faculties, guided by Reason and Experience, to decide what is right.

"They hold that all the faculties are inherent, implanted by the Creator, and that the happiness of man consists in their satisfaction, and that the result of the violation of any of the natural laws is evil.

"Thus, it will be seen, this new Philosophy of Morals, while it includes the ideas of both the Utilitarian and the Intuitive schools, agrees entirely with neither, but furnishes a platform on which all may stand in harmony. It tells us the 'course of conduct we *ought* to pursue' is that which is approved by the whole moral and intellectual faculties, fully enlightened and acting in harmonious combination; that the meaning of the word 'ought' is duty, and that we derive the idea it expresses from the natural laws of our constitution. And it teaches us that the highest duty of man is to do that which will in the greatest degree insure his own happiness, and that this can be done only by using all the faculties of his mind and all the powers of his body in promoting the physical and spiritual welfare of those about him. These principles are more fully set forth in the books noticed in connection herewith, which are commended to the attention of all interested in the subject."

ALTHOUGH reason is a right judge, yet it ought not to pass sentence in an inquiry of faith till all the information be brought in; all that is within and all that is without;

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all that is below and all that is above; all that concerns it in experience and all that concerns it in action; whatsoever is of pertinent observation and whatsoever is revealed.

Our Country and Its Resources.

That which makes a good constitution should keep it, viz., men of wisdom and virtue; qualities that, because they descend not with worldly inheritance, must be carefully propagated by a virtuous education of youth.—*William Penn.*



Fig. 1.—French Merino Sheep.

AMERICAN SHEEP HUSBANDRY.

SHEEP husbandry is one of the earliest of human employments. It is noteworthy that the animal best suited to the primal condition of nomadic man is equally essential to the most advanced farm culture. Its introduction into North America was coincident with the settlement of the continent by Europeans. There is, indeed, a native member of the sheep tribe which has never been domesticated, the *Ovis Montana*, Rocky Mountain, or Big Horn, sheep, which is found at high elevations through the vast mountain systems of the West. During the long years of the colonial period, sheep were bred in sufficient numbers to furnish fat lambs and occasional mutton for consumption in rural neighborhoods, and wool for manufacture by the women of country households. It was not then the policy of the mother-country to encourage free manufactures, and even free trade was often shackled with a stamp. There was, nevertheless, an early effort for the establishment of manufactures of woolens, and some success was attained after the war of independence; the introduction of

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the merino gave an impetus to the business, and in 1810 it represented a production of $25,608,788.

At the close of a war, inaugurated in part to cripple this growing interest, factories were closed with little promise of immediate resumption of activity, and in 1820 production had attained a value of only $4,413,068. Its progress has since fluctuated with changes in tariff legislation, the value of manufactured products being $14,528,166 in 1830; $20,696,999 in 1840; $43,207,545 in 1850; $61,894,986 in 1860; $155,405,358 in 1870. The reduction of the customs duties on wools and woolens, in 1857, prevented any material extension during this decade, the 1,559 mills of 1850 being reduced to 1,260 in 1860, though the latter were of greater capacity, and employed quite as much labor in the aggregate. When foreign goods were practically under embargo from the gold premium caused by the war, mills multiplied, invention was active, skill was developed, and the country became almost independent of foreign manufactures, the number of establishments increasing to 2,891, the number of employees from 41,360 to 80,053, and the number of sets of cards from 3,209 to 8,336.

Since 1870, progress has been marked and rapid. With home flocks increasing, the wool imports have averaged 74,000,000 pounds for the last five years, against 43,000,000 for the preceding five years. Nearly two-thirds of the value of production, and a larger proportion of our attainments in skill and facilities, are the result of the progress of fifteen years. Before the war the exhibits of woolens made at the international exhibition at Philadelphia would have been impossible. At the same time the prices of these goods have been reduced, and the people are better clothed at less cost than if our supplies were obtained from foreign sources.

BREEDS AND THEIR IMPROVEMENT.

The original settlers brought into New England, Maryland, and Virginia, the English sheep of those days, the foundation-stock of the present improved Downs, Leicesters, Cotswolds, etc.; and the Knickerbockers also brought the mutton sheep of the lowlands.

THE MERINO.—The Spanish Merino, whose blood now predominates in more than four-fifths of the flocks of the country, was not introduced, except, possibly, in small numbers, in Spanish colonies not inclined to sheep husbandry, until near the close of the eighteenth century. In 1793, two ewes and a lamb were brought from Cadiz to Boston by Mr. William Foster; 1801, four ram lambs were shipped to this country, only one of which survived the voyage; in 1802, Mr. Livingston, American Minister in France, sent home two pairs; and Col. Humphreys, American Minister in Spain, brought home a flock of merinoes the same year.

In 1809 and 1810 more than six thousand of these sheep of Spain were imported into the United States. In those years, Wm. Jarvis, consul at Lisbon, shipped three thousand eight hundred and fifty to the United States to be distributed; fifteen hundred in New York; one thousand in Boston and Newburyport; the remainder to Philadelphia, Baltimore, Alexandria, Norfolk, and Richmond, reserving three hundred and fifty for himself, half Paulars, one-fourth Aqueirres, the other fourth Escurials, Negrettis, and Montarcos, which latter were bred together. These flocks were obtainable in consequence of the French invasion of Spain, and royal destitution of money and resources, occasioning the sale of the confiscated flocks and other property of four grandees, the Prince of Peace owning the Paulars, the Conde Campo de Alange, proprietor of the Negrettis; the Conde Aqueirres, and the Conde de Montarco. There were fifty thousand; five thousand of each of the former two, and twenty thousand each of the latter two. About twenty thousand five hundred were sold, the remainder consumed in the supply of the Spanish army.

Among these importations were some of the best sheep of Spain; in some instances imported rams commanded $1,000 to $15,000; fine wool was sold at $1 per pound in 1807, and Mr. Humphreys once obtained $2

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for unwashed fleeces, while still higher prices were attained during the war. With the opening of the ports to the competition of the world, and the natural revulsion of war prices, similar sheep were sold in 1815 at a dollar per head, and sheep breeders retired in a panic from the field. Yet the Spanish Merino, thus introduced, has held precedence ever since, and from it has been developed the American Merino, probably the best of the Merino families, for the sheep walks of our great plains and grassy mountain areas. Few are aware of the extent of this improvement. The engraving (Fig. 1) represents the original of the French (Rambouillet) Merino when introduced from Spain in 1787. Fig. 2 is a portrait of the improved Rambouillet of 1873. In comparison with these, the improved American Merino is not unfairly represented by Hammond's celebrated "Sweepstakes," (Fig. 3), bearing a fleece of 27 pounds unwashed, with a weight of 138 pounds. The French has greater weight of carcass and longer fibre; the American a more compact form, greater proportion of fleece to live weight, and wool of finer grade; the German Merino has shorter and finer fibre than either, with a present tendency in breeding to increase of fleece-weight and coarser and longer fibre. The three nations have each in thirty years past enhanced the weight of the fleece at the expense of fineness. France has made size and feeding capacity the highest aim in breeding; Germany has sought "high fineness," evenness and elasticity of fibre; while America has pursued a medium course; improving the carcass, increasing the fleece, preserving the strength and attaining a useful length of fibre, so judiciously as to unite progress and profit in breeding. While the flocks of the country are designated Merinoes, except a small percentage of English breeds on lands of advanced price and higher cultivation, they are by no means thoroughbreds, constituting in districts of greatest wool production grades of half to three-fourths Merino blood. Vermont presents the highest average, her flocks coming nearest to absolute purity of blood, and Ohio and Michigan claim legitimately the next place in comparative proportion of the Spanish element. These States, in the order named, contain the largest proportion of thoroughbred stock kept exclusively

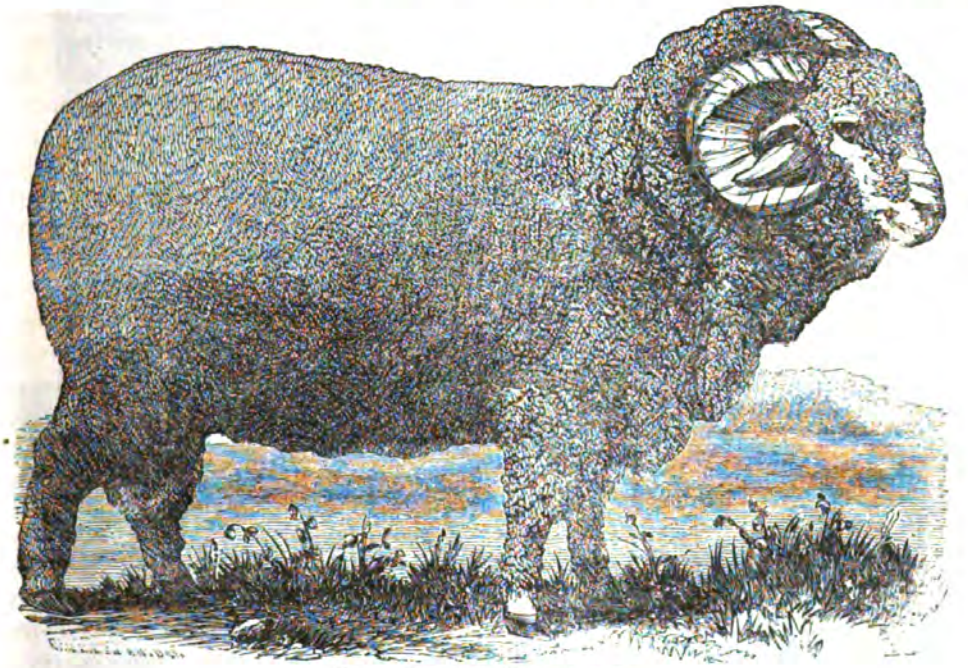


Fig. 2.—Improved Rambouillet.

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for breeding purposes. Large numbers are purchased in these States for improvement of the coarse and thin-fleeced sheep of Texas, the Mexican sheep of the Territories, and the low grades of the Eastern and Southern States.

THE COTSWOLD.

Perhaps the Cotswold may be said to be the favorite in this country among the so-called mutton breeds. It is quite generally diffused throughout the area east of the Missouri, and is to be found among the plains and mountains. It is one of the largest English breeds, is of great antiquity, but is more compact than formerly by reason of a strain of Leicester blood in the course of its improvement. It has gained in fleece as well as in form, and in earliness of maturing, and can easily be made to weigh 15 to 20 pounds at fourteen months, and 20 to 30 at two years. It is proper to say that many classed as Cotswolds are not well bred, and are often mixed with other mutton breeds, and even with the Merino. The wool is long, 6 to 8 inches, coarse, of good color, and averages 8 pounds in well-bred flocks. The mutton is superior to that of the Leicester, with a less proportion of fat. It has a good figure, a large head, well set on, a broad chest, a well-rounded barrel, and a straight back. Imported individuals of this breed have yielded a fleece of 18 pounds. It is popular in this country and in Europe with breeders of cross-bred market lambs. The accompanying engraving (Fig. 4) represents a recently sheared prize Cotswold belonging to the celebrated Cirencester Agricultural College, England. With a full fleece it would make a far more imposing appearance, yet the form is more accurately shown in this cut.

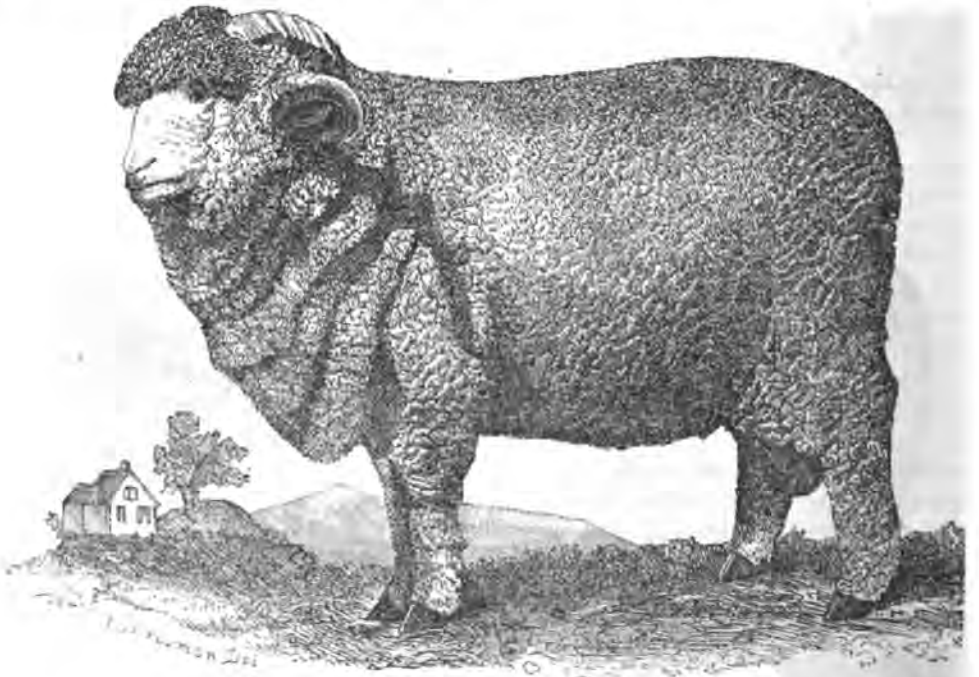


Fig. 3.—"Sweepstakes" Merino.

LEICESTER.

While the size and hardiness of the Cotswold commends it to American breeders, it can not be denied that the Leicester in England dominates, in numbers, all other mutton breeds, and has been used in improving all, with the exception of the genuine (Sussex) Southdown. This breed is also well distributed in this country, but is even more mixed with other blood than the Cotswold, and is seldom found highly bred. The head is small and tapering, with a light face, and without the tuft which marks the forehead of the Cotswold. The breed sur-

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passes all others in earliness of maturity and in aptitude for fattening. The fleeces are valuable for combing wool, and aver-

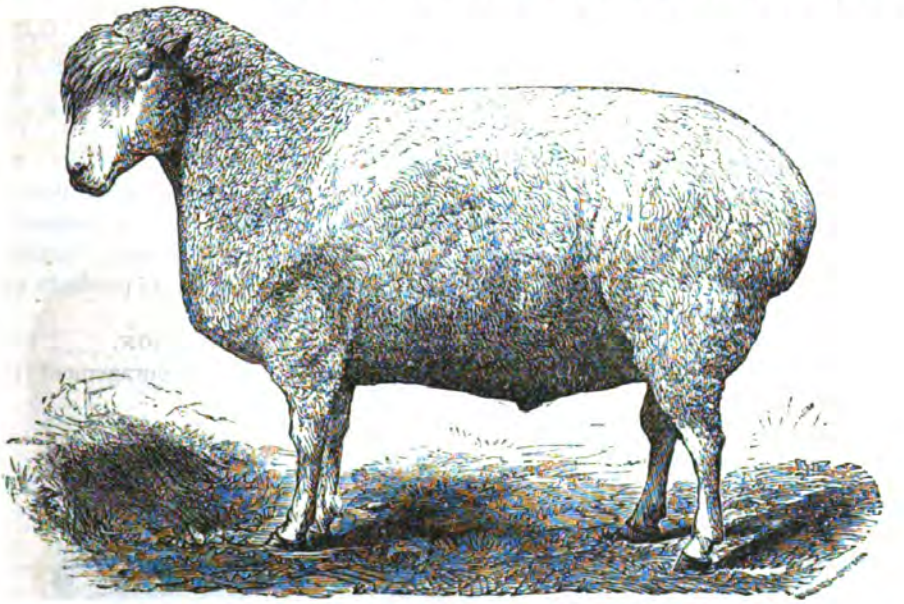


Fig. 4.—Prize Cotswold.

age, in well-kept flocks, seven pounds. They should be ready for the butcher at twelve to fifteen months old, and weth-

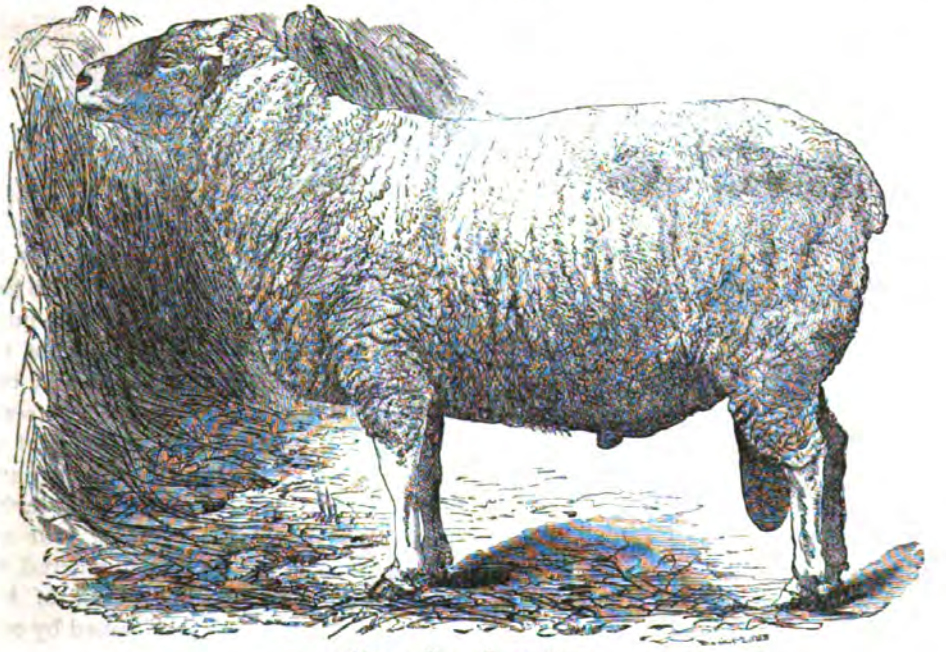


Fig. 5.—Prize Southdown.

ers in the summer of their second year should weigh 20 to 25 pounds per quarter. Washington was one of the earliest importers of Leicesters, which were placed with his flock at Mt. Vernon; and a cross between one of his Bakewell ewes and a Persian ram produced the famous Arlington long-wooled sheep so extolled by Custis.

SOUTHDOWNS.

Certainly next in importance should be classed this ancient race, which has better

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preserved its identity than any other through its long course of improvement by selection alone. The Hampshire and the Shropshire varieties have been modified by Leicester or other blood, but the Sussex are evidently pure Southdowns. This breed is noted for its spirited and vigorous appearance, its hardiness, its fecundity, and for the superiority of its mutton. The male is in extensive use by breeders of early lambs, the mothers being the common or mixed sheep of the country. One of the most noted breeding flocks of the world is owned by Lord Walsingham, of England, who has sent many of its representatives to this country, among them several at the Philadelphia Exhibition. The engraving (Fig. 5) is a good likeness of one of the prize-takers of this flock.

OTHER BREEDS.

A few Lincolns are bred in this country, one of the largest of the long-wools, with very long and lustrous fleece; but the Romney Marsh, the Cheviot, Dorset, and Blackface are practically unknown here, though specimens may possibly be found of each. They are all, more or less, the result of local conditions which do not exist here, and could not compete with the English breeds which have already commanded strong preferences of Americans. On the score of great fecundity and excellence of nurses, it may be considered singular that the Dorset has not a footing here. Fig. 6 represents a pure ram of this breed.

FLOCKS OF THE FUTURE.

The Merinoes will continue to predominate upon the great sheep-walks of the country, where wool is the aim, and large flocks a necessity. The English breeds will slowly increase in the farming districts where sheep can not be kept for wool alone and the fattening of animals is an essential in rural economy, a means of fertilization as well as of the conversion of products of fertility.

DISTRIBUTION.

There was little encouragement to increase the wool product between 1850 and 1860. The census of the former date numbered 21,723,220 sheep upon farms; of the latter, 22,163,105, an increase of only two per cent. There was evidently an increase up to 1857, the date of the admission of all but the finest wools free, after which numbers declined. Increase was rapid during the war and up to 1868, in which year not less than four millions were slaughtered for their pelts. This was the result of low prices throughout the world, caused by over production of woolens followed by stagnation. I estimate the numbers of last winter at about thirty-six millions.

Ohio was formerly the leading State in

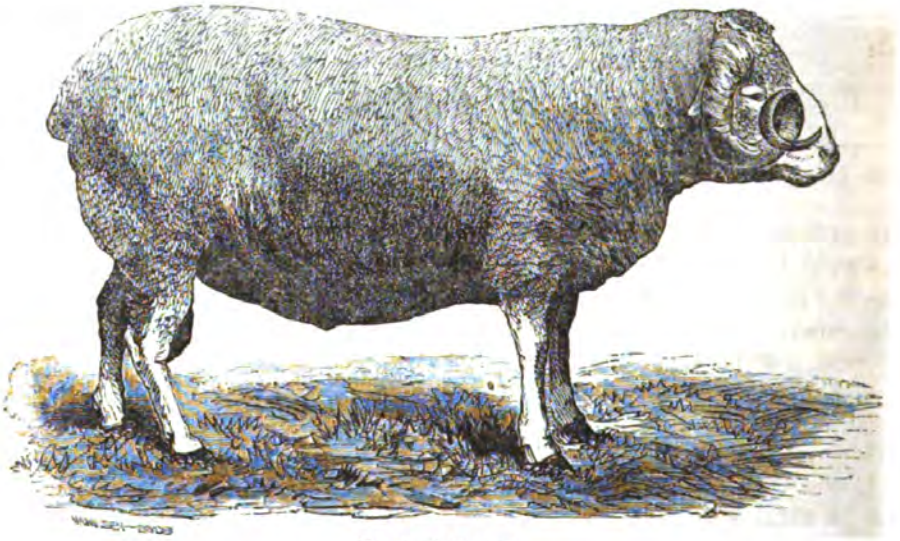


Fig. 6.—A DORSET.

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this industry. Now California has precedence. Oregon and the Territories are increasing their flocks. More than forty per cent. of the whole number are now found West of the Mississippi. In 1850 the proportion in this great section was about 10 per cent., though the census (which does not include all the flocks of distant sheep-walks) gave only 7.5 per cent. In 1860 the census record was nearly 20 per cent. and the real proportion near a fourth of the total number. At this rate more than half the sheep of the country will soon be found west of the Mississippi. The estimated numbers in the several States at the opening of the present year are as follows:

State.	Number.	State.	Number.
Maine	525,900	Arkansas	192,400
New Hampshire	242,400	Tennessee	341,700
Vermont	490,500	West Virginia	544,500
Massachusetts	76,300	Kentucky	683,600
Rhode Island	25,300	Ohio	4,546,600
Connecticut	92,500	Michigan	3,450,600
New York	1,936,500	Indiana	1,250,000
New Jersey	125,800	Illinois	1,311,000
Pennsylvania	1,640,500	Wisconsin	1,162,800
Delaware	23,600	Minnesota	190,200
Maryland	141,200	Iowa	1,663,900
Virginia	356,400	Missouri	1,284,200
North Carolina	283,900	Kansas	123,900
South Carolina	142,700	Nebraska	48,900
Georgia	371,200	California	6,750,000
Florida	37,800	Oregon	710,500
Alabama	185,900	Nevada	20,900
Mississippi	151,800	The Territories	3,049,200
Louisiana	68,800		
Texas	1,691,400	Total...	35,935,300

The numbers change rapidly with fluctuations in value. The highest price of the past ten years was in 1867, the average being $3.37 per head. Then came a rapid fall in the price of wool, producing a decline in the value of sheep to $2.47 in February, 1868, with a decrease in numbers that continued during 1868, and reduced the total several millions. The ebb-tide continued to 1869, when the estimated average was $2.17, slowly rising to $2.28, $2.32, $2.80, $2.96 (in 1873), since which date the annual values have been respectively $2.61, $2.79, $2.60. The estimated total valuation of our flocks was last winter $93,666,318.

OUR PRESENT WOOL SUPPLIES.

Since 1870 our domestic and foreign wools have furnished a supply of about 224,000,000 pounds, more than two-thirds home-grown, importations being mostly unwashed Merino and low grade carpet wool, constituting not more than one-fourth of the value of the entire wool supply. In addition to this the shoddy of 1862 to 1870 averaged 4,602,669 pounds, valued at 8 cents; and during the five subsequent years only 1,831,456, at 8.9 cents. This is a small proportion, furnishing one good reason for the acknowledged superiority of American woolens.

The imports of foreign wools, together with the value of woolens imported since 1860, will be found valuable for reference.

Years.	Woolens.	Wool.		
	Value.	Pounds.	Value.	Cents per Pound.
1861	$28,261,039	36,000,000	$4,961,326	13.7
1862	14,884,394	43,571,026	6,994,606	16
1863	20,411,625	73,897,807	12,553,931	16.9
1864	32,139,336	90,396,104	15,923,991	17.6
1865	20,347,563	43,858,154	7,728,383	17.6
1866	57,115,901	67,917,031	9,381,083	13.8
1867	45,813,212	36,318,299	5,915,178	16
1868	32,371,329	24,124,803	3,792,659	15.7
1869	34,560,324	39,275,926	5,600,958	14.2
1870	34,435,623	49,230,199	6,743,350	13.6
1871	43,751,973	68,058,028	9,700,443	14.3
1872	52,176,260	122,256,499	26,814,195	21.5
1873	50,875,805	85,496,049	20,433,938	23.9
1874	46,732,032	42,939,541	8,250,306	19.2
1875	44,440,940	54,903,654	11,069,701	20.1

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In connection with these figures, I will give the results of my investigation into the sources of supply of the wools of the world:

Countries.	Number of Sheep.	Pounds of Wool.
Europe:		
Great Britain	35,000,000	218,000,000
German Empire	29,000,000	125,000,000
Austria-Hungary	21,000,000	60,000,000
Russia	50,000,000	138,000,000
France	26,000,000	124,000,000
Spain	22,000,000	69,000,000
Portugal	2,750,000	11,000,000
Italy	11,000,000	38,000,000
Turkey	15,000,000	37,500,000
Greece	2,600,000	7,500,000
Switzerland	550,000	2,500,000
Denmark	1,900,000	8,000,000
Holland	900,000	4,500,000
Belgium	600,000	3,500,000
Sweden	1,700,000	6,000,000
Norway	1,750,000	6,250,000
Total	221,750,000	858,750,000
America:		
United States	36,000,000	185,000,000
Canada	2,000,000	8,000,000
South America and Mexico	58,000,000	174,000,000
Total	96,000,000	367,000,000
Asia	175,000,000	350,000,000
Africa:		
Northern	20,000,000	45,000,000
Cape of Good Hope	12,000,000	51,000,000
Total	32,000,000	96,000,000
Australia	60,000,000	255,000,000
Grand Total	584,750,000	1,926,750,000

This interest is most intimately connected with the prosperity of agriculture and increase of rural wealth. It is also of great importance to the health of the people, furnishing the most healthful variety of flesh meat and one which should, as far as possible, supersede the use of pork and its products. The dissemination of the true mutton breeds to a sufficient degree at least to fill the markets with cross-breed lamb and mutton, is a great desideratum, whose attainment would largely increase the demand for such meats and the profits of sheep husbandry.

J. R. DODGE.

WASHINGTON, D. C., *Nov.* 30, 1876.

THE AMERICAN INTEROCEANIC CANAL.—The Isthmus canal commission have reported that the Nicaragua route is the most feasible; that it will cost $100,000,000, and will occupy ten years in construction; that such a canal should be under the protection of all the nations interested, and that they should guarantee neutrality of the canal and its works, of a contiguous strip of territory on each side of fifty miles or more in breadth, and of the ocean approaches for one hundred miles along the coast and out seaward from each end. Under the President's direction a communication has been sent to the principal powers of Europe in regard to the subject, directing attention to the satisfactory results of surveys made and to views set forth in the report as to the best routes. Replies have been received from several governments, in which they express themselves favorable to the early beginning of the work, and approve the wisdom of making it international by an equal participation of the great powers in its construction and the maintenance for it of an inviolate neutrality.

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PHILIP SCHAFF, D.D.,

THE EMINENT BIBLICAL COMMENTATOR.

THE temperament of this gentleman indicates activity, strength, and endurance. It indicates also that quality which gives point and positiveness to all the qualities of the mind—we might say, emphasis,



earnestness, industry. The features are firmly set and strongly defined. The whole head, face, and figure, as far as shown, indicate the tendency to be his own master, take the responsibility, and not to lean on others for strength and guidance. In short, he has the appearance of a well-poised, self-conscious, determined nature.

In his large perceptive organs, or in that fullness and prominence of the brow, we recognize a capacity for acquiring knowledge and for appreciating particulars. He is one of the most definite of men, and would have excelled in such study as is required for the making of a lexicon. He must be a great hand for definitions, and in

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discussion aims to bring every question down to precise terms.

He has very large Language. The fullness of the eye, and that swollen appearance below it, indicate uncommon talent in the use of words, and in comprehending their special meanings. He is orderly almost to a fault; has an excellent memory of facts and things, and especially of the relationship of fact to fact and subject to subject. If he were to discuss questions involving history, he would seem to be a walking cyclopedia. As a lawyer, he would appear to carry the subject-matter of his case in his head and not in his notes. It would be difficult to detect him in an error of time, place, or event.

He is a practical reasoner; is not what would be called philosophical; but better adapted to learn that which is understood and applied than to push investigations beyond the beaten track. He is the right man for a teacher; can read character at a glance, appreciate strangers and human nature in general. His breadth of head indicates ingenuity, financial capability, force of character, courage, thoroughness, and executiveness.

He is a good friend; respectful and sympathetical as such; but he is also a bold man, daring to exercise his own judgment and to express his own views. He is not a time-server; would not quietly and placidly follow in a beaten track in his reading and expression of view; is not confined to that which is considered "orthodox." He is liberal enough to study the arguments and teachings of those who are presumed to be his opponents, and will manifest a just liberality toward them, if he think them to be honest; but he is a mortal foe to sham, false pretence, hypocrisy, and double-dealing.

For many years Dr. Schaff has been considered one of the most eminent of bibliologists. Certainly for industry, and patience in research, and for the practical value of his contributions to the literature of Christian theology, no American divine may be mentioned as his superior. He is a Switzer by birth, having been born at Chur, Switzerland, on the 1st of January, 1819.

He received his education at the universities of Trebingen, Halle, and Berlin; was graduated at the last, with the degree of "Doctor of Philosophy," and "Licentiate of Divinity." In the year 1841 an opportunity was afforded him to travel, as the private tutor of a Parisian nobleman, and for a considerable period he was thus engaged, visiting different parts of France, Switzerland, and Italy, and returning to Berlin in 1842. Here he commenced to lecture on Theology.

In the fall of 1843 the Synod of the German Reform Church of America tendered him an invitation to become Professor of Theology at Mercersburg, Pa. He accepted the offer, and having been ordained at Eberfeld, he came to America in 1844. A charge of heresy was subsequently brought against him, on account of some alleged unsoundness of opinion expressed in a work published in Berlin before his call to America, and also on account of some views said to have been expressed in his inaugural address at Mercersburg. An investigation resulted in his acquittal by the Synod. He retained this professorship for several years, and besides discharging its duties, preached and wrote, first in connection with Dr. Nevins, then with Dr. Wolff.

In 1854 he went to Europe as representative of the "German Reform Church of America," in two religious conventions; one, the Church Diet of Frankfort-on-the-Main; the other, a Swiss Pastoral Conference in Basel; and while there he lectured on Berlin, America, and other places. At that time he received from the University of Berlin the degree of D.D. Returning to America, he made the city of New York his residence, where, until his appointment to the chair of "Apologetics and Symbolics," in the Union Theological Seminary, in 1869, he was occupied in various ways connected with his character as clergyman and theological author. He visited Europe several

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times on behalf of the "Evangelical Alliance;" was one of a commission of fourteen gentlemen representing American and Foreign branches of the "Evangelical Alliance," which waited upon the Russian government with reference to religious persecutions in Russia, particularly the Baltic provinces. Dr. Schaff has been associated in the work of revising the authorized version of the Bible, being at the head of the division of the American committee in charge of the New Testament revision.

As an author Dr. Schaff is one of the most conspicuous among living theological writers. He published, previous to his emigration to America, "The Sin Against the Holy Ghost," 1841; on "James and the Brothers of Jesus," Berlin, 1842; "Principles of Protestantism," German and English, 1845; "History of the Apostolic Church," 1851. This work, originally published in German, was translated into English, and editions brought out in New York and Edinburgh in 1853. It has also been translated into Dutch and French. "German Hymn Book," 1859. His noteworthy volumes in English are, "What is Church History?—a Vindication of the Idea of Historical Development," 1846; "Saint Augustine, his Life and Labors," 1853; "America, its Political, Social, and Religious Character," being the collection of a series of lectures delivered in 1854, during his visit at Berlin; "Germany, its Universities and Divines," 1857; "History of the Christian Church of the First Three Centuries," four volumes, 1858; "Moral Character of Christ, or the Perfection of Christ's Humanity, a Proof of his Divinity," 1860; "The Revision of the English Version of the New Testament" was edited and published by him in 1873. From 1848 to 1853 he published the *Kirchenfeund*, and was co-editor of the *Mercersburg Review* for several years.

He has been engaged for several years in the translation and revision of Dr. John Lange's great work, entitled "A Commentary on the Holy Scriptures—Critical, Devotional, and Homiletical," of which fifteen volumes have appeared. He has also contributed frequently to religious periodicals of America and Europe.

Dr. Schaff is a man of middle height, and well-proportioned, with a kindly, courteous manner and a fluent readiness of speech.

RESULTS OF THE CENTENNIAL.—The tabulated results of the American Centennial Exposition, when compared with those of the different European Exhibitions, show most favorably for us. The following statement has been carefully obtained:

YEAR.	PLACE.	VISITORS.	RECEIPTS.	DAYS.
1851	London	6,039,195	$2,530,000	141
1855	Paris	5,162,330	640,500	200
1862	London	6,211,103	2,360,000	171
1867	Paris	10,000,000	2,822,932	210
1873	Vienna	7,254,687	2,000,000	186
1876	Philadelphia.	9,907,125	3,850,000	159

In looking at this, the reader should take into account the comparative isolation of our enterprise nationally, while those of the European nations were situated within a few days' travel of upward of 200,000,000 of people.

The following table presents in full the figures of attendance and receipts for each month separately, and the grand totals:

MONTH.	DAYS.	PAID.	TOTAL.	RECEIPTS.
May	19	378,980	613,495	$189,490 35
June	26	695,666	952,177	347,833 40
July	26	636,518	906,447	318,199 25
August	27	908,684	1,175,314	415,659 25
September	26	2,130,991	2,439,689	928,066 00
October	26	2,334,530	2,683,879	1,160,811 50
November	9	918,956	1,038,391	453,700 00
Total	159	8,003,325	9,789,392	$3,813,749 75

Number of days open	159
Total free admissions	1,785,067
Average daily cash admissions	50,341
Average total daily admissions	61,568
Average daily cash receipts	$23,985 85

The Main Building has been purchased by a Company for the purpose of establishing an Industrial Exhibition, which, if successful, will be made permanent. Many of the former exhibitors therein have taken space. Several of the more substantial State and other buildings will remain as ornaments of the park grounds.

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TWO LIVES.

"The highest, the most human, the most divine, life is the one into which you can put the most of God and humanity, because that is the life which is most capable of receiving it."

IN a fine rural district in the central part of New Jersey lived two boys, George Walters and William Severn. They were of about the same age. Their fathers were both farmers. In winter the boys went to school together in the little old school-house, which, for the sake of economizing space, was set just outside of the road. Their opportunities for self-culture, so far as condition and duties were concerned, were about equal. Farm life always draws heavily on a boy's school life; yet, by diligence and perseverance, many farmer boys, as is well known, have become fine scholars.

When George and William first went to school they sat on the same bench, studied the same lessons, and gave promise of much the same future. There was little difference in their ability to acquire knowledge, and, to outward appearances, but little difference in their dispositions. But it soon became manifest that they *were* different. George grew in diligence, while William became careless and indolent. They were soon separated in their studies, and they grew farther and farther apart as time rolled on. Their tastes and habits grew apart as rapidly as their minds, until, long before they became men, they seemed to have but little in common. George was becoming a fine scholar. He employed his leisure in reading and study. In consequence, he was steady and thoughtful, and free from those vices and roughnesses which the boy of the period deems so manly and so dignified. William, on the other hand, had made but little progress in his studies. He could barely manage to read. His leisure time was spent in lounging in the store or tavern of the nearest village, smoking vile tobacco, listening to vile conversations, and sometimes indulging with his companions in drinking viler liquors. And yet he was not thought to be an exceptionally bad boy. He had some good qualities, but he was fast dwarfing them. People rather liked him, and half excused his follies. They called him "fast," but thought that he would reform as he grew older. Ah, friends! the path which he was treading is not a path to reformation.

We will here digress in order to notice the parents of the two boys, and the home influences that surrounded each. We believe that no picture of a man's life is complete unless it sketches his early surroundings—the home influences that were brought to bear in forming his character. Charles Walters, George's father, was an intelligent, liberal-minded farmer. He was thorough and exact, prompt in his dealings, and careful to have all things done in a systematic manner. His farm was kept in good repair. His work was always done in time, and done in order. Within doors everything was neat and cheerful. Mrs. Walters was a good housekeeper and a good mother, as a good housekeeper always is, if a mother at all. The house was not merely a place of shelter, it was a home—a place of pleasant associations and refining influences. The requirements of good taste were as carefully met as the demands of the body. Books, papers, and magazines, such as the intelligent and pure-minded desire, graced the center-table and exerted a powerful influence over the whole family, and particularly over the growing boy. Here it was the delight of Mr. Walters to spend his evenings in reading, talking, and assisting George in his studies. Thus encouraged, and surrounded

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by such influences, is it strange that the boy should learn to love knowledge, and to appreciate beauty and purity of character? Is it any wonder that his progress was both rapid and substantial?

But what were William Severn's surroundings? His father was one of those men whom one does not know how to classify. It would not do to call him a good and honorable man, because he had too many bad traits of character; it would not do to call him a bad man, because he possessed too many good qualities. He was a sort of half-way man, thorough in nothing, and deficient in many things that go to make up the true man. He was, however, a man in fair standing; was considered "a good fellow" by his associates, who often took advantage of his failings. His farm was kept in a slovenly manner. He did not exactly neglect his work, but he manifested no taste and employed no system in its management. His son, of course, was managed in the same way. He cared little what tastes or habits William acquired. He took no interest in the boy's studies; never tried to encourage him in anything that he deemed of so little importance. He looked upon his son as a sort of animated machine for doing the odds and ends of the farm, and took no thought for that higher nature which needs such careful training in every youth.

In the house, physical wants and physical comforts only were regarded. Mrs. Severn was a good-hearted woman, but her æsthetic tastes, never very high, had been gradually dying out in the uncongenial climate of her husband's grosser tastes and associations. The house had a gloomy, barren appearance. A chill crept over you as you entered this dwelling, yet you could not tell just why. There was nothing offensive about it. Its offence lay in the absence of anything attractive. No books or papers were to be seen, no cheerful pictures hung against the wall. There were no flowers, no music, no anything to refine the inmates and make them feel that home is the dearest spot on earth. Nor did Mr. Severn so esteem it. The haunts of the village gossips and loafers suited him far better, and thither he went at every opportunity. It is not strange, then, that with nothing at home to attract him, and with the example of his father for excuse, William should early become a village loafer, and should fall into other bad habits for which his father's practices gave license. Self-culture was not held up to him as a duty; temperance was not taught him as a virtue; purity of habit was not set before him in its moral beauty. It is not strange that he became what we have already seen. Who shall say that the fault was all his own?

As story writers say, we shall now step forward a few years. George Walters and William Severn are young men now. The difference in their tastes and habits has grown with their years. The friends and classmates of other days are now widely separated, though still living in the same neighborhood. The North and the South Poles are not geographically farther apart than mentally and morally are these two young men. Yet William is not, even now, considered an abandoned man. He passes in the society of the neighborhood for a "fast young man;" but people will excuse "fastness" in some men, and William is one of those unfortunates whom people do not hold to a strict account. The habits of his earlier life have grown with his manhood. He still seeks questionable company; still spends much of his time, even more than formerly, at the tavern. The little village is no longer wide enough for him. Every keeper of a grog-shop for miles around knows him as a "good, free-hearted fellow," and secretly despises him while pocketing his money. His early tippling habits have developed a craving for strong drink, which very often gets the upper hand of him. It is no rare thing to see him staggering along the street with flushed face and bloodshot eyes. It is hard work for him to restrain himself sufficiently to keep up even his shabby neighborhood respectability.

How different with George Walters! He, too, has been developing the qualities which we saw early in his life. But while his early companion has been developing blots and stains, George's qualities have grown into beauty and strength, which place him among the foremost young men of his day. Unlike

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the other, he needs none of people's excuses and indulgences, and he desires none. He is looked upon as a useful man already, and one that is likely to be still more useful in the future. He has secured a thorough education, and is now a deep and reverent student of nature. He finds his chief enjoyment in intellectual pursuits, in gathering beauties from the boundless fields of literature and science. He is acknowledged to be a man of rare accomplishments and great intellectual power. He is an honor to himself, an honor to his parents, and an honor to the neighborhood.

Again we must pass over a number of years. The fathers of our two young friends have both gone to their final rest. The sons have succeeded to the farms which have known them from their boyhood. Thirty years ago these properties were about equal in value, but they are very different now. Ay, they tell of different owners. George's father left him the farm in good order, and he has been steadily making it better. Everything about the place speaks of comfort and plenty. You recognize at once that, while the farm is made to produce dollars, it is also made to yield pleasure and satisfaction to its possessor. While it supplies his wants, it also ministers to his higher nature. A stranger would feel certain that an intelligent, high-minded man lives there. The house is that same old homelike, cheerful dwelling that we saw it of old, only it has grown richer and brighter while growing older. The kind mother is still there, rejoicing in the success of her son, and glorying, as only a mother can, in the distinction and honor which he has won; for he is now distinguished and honored for learning, piety, and public spirit. There is another who also shares his triumphs now. He has a wife that well might be the pride of any man—a lady who would grace any position in life. They have a boy ten years of age, and a girl eight—bright buds of promise—to claim their love and attention.

We must now turn to William Severn, who also lives in the home of his boyhood. The farm came into his possession in a very bad condition, and it has been rapidly growing worse ever since. The mortgages have increased; the buildings are out of repair; the fences are all tumbled down; the grain fields look poor and scanty; the harvest often lingers while the harvesters carouse. There are no marks of intelligent, prudent care about the place; everything seems to be going to decay. The house, grown older and more dilapidated, has a still more dreary and uninviting appearance. There is a change within, but it is as black as ever. The mother is gone—driven from her home by the intemperance and consequent ill-usage of her son. William has been married several years, and his wife, who is now mistress of this unhappy home, is a sad, disheartened woman. Like many others, she thought that he would reform, and married him, only to find him constantly growing worse. They have one child, a boy, who is training for a miserable existence. God pity his future! The future, indeed, looks dark for them all. Their property is nearly gone, and even William's doubtful respectability is a thing of the past. Poverty, want, and shame stare them in the face. May Heaven pity them, and pity all who suffer, as they do, the full fruits of evil habits—the consequences of intemperance!

In this brief story of these two lives, not yet ended, but matured, we have endeavored to sketch, in no unnatural colors, two paths that open before our young men. Alas, how many are drawn into that path which is fatal to all usefulness and all happiness!

E. T. BUSH.

WOMAN-NATURE.

THOSE who would elevate the standard of womanhood should begin by learning that it is only through love and kindness that woman can ever attain her largest growth toward the purest ideal in which the womanly graces center. They should learn that snubbing and slighting and envying are not what call out the good in woman. She may have patience and long-suffering, which will shine forth all the brighter for a time, but she never can be herself, never can feel herself except in the atmosphere of

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refined thoughtfulness and true love. Harsh criticism, selfishness, and forgetfulness of her feelings will all work together to sadden and harden her nature, and sicken her of life. She does not wish or need to rule, but what she wishes and needs is consideration of her feelings, deference and remembrance, and not to be passed over and ignored as one not belonging to existence, or have her very existence a subject of insult to all that is noblest and purest in her nature. She does not care to be a pet or plaything, but she does care for affectionate regard and the manifested respect of all good people. She needs to be drawn out, and not forced or pushed hither and thither either by friends or foes or circumstances. Hardship and unhappiness may have brought forth the brightness of some already pure samples of womanhood, but they have driven many more into the blackness of misery, or left them to drift hopelessly, aimlessly on, either to the good or bad, as the tide of chance might bear them. In almost every instance the poor wrecked and degraded specimens of women are driven to wreck either by a loveless childhood and youth or an after-life of unhappiness which kindness might have averted or love led on to the highest plane of living.

It is a lesson which fathers, brothers, husbands, and rulers should learn, that a woman must have attention, must have latitude, and must have the right to be true accorded her, or she can never be true to herself or others. Chafed by even personal slights and wrongs, if they be *home*-wrongs, she loses her relish for trying to do well, and sinks into an irredeemable apathy, or what is worse, grows hard and harsh, stern and bitter, with all of womanly loveliness crushed out or hidden under the deformity of her misfortune. The strongest and the most spirited natures suffer most under slight and injury. They may or they may not rise above them, but the chances are against them. Especially if the wounds are dealt by those who are nearest to them by association, relationship, or affection. Woman has a pride as sensitive as man, and likes to have it respected. She needs something of concession to her expressed wishes, and she likes sometimes to have her wants anticipated and not be put to the asking for everything. When she does ask for the simplest favor of kindness, she likes it granted. If she humble herself to beg for it, she does not like to be snubbed with rudeness, and left to eat her heart out in silent sorrow, or to weep it out in tears. She is, as the customs are, a dependent being, and she feels her dependence and does not like to be told of it. She is by nature more or less dependent, with a dependence she would delight in if not made to feel it in the light of an underling. She likes protection, and turns involuntarily to man for support; but she does not like it to be a begrudged support. She honors man's strength, but she shrinks from the pomp of arrogant lordliness. The strength that is tempered with gentleness becomes doubly strong to her, and she honors it the more in proportion to its superiority. It is not in the cause of "woman's rights" that this article is being written, for with those who respect her *feelings* the rights will plead their own cause. It is written in the cause of woman's happiness and the cause of home-rights. A woman who devotes herself to the interests of home, does not like to feel a forced slave there. Neither does one who yields to necessity, and makes herself a slave, like to be considered an encumbrance and constantly reminded that she is such. She does not wish to be a dictator, neither does she wish to be the subject of dictation. A woman needs leisure for improvement, and something of reward for well-doing. She grows quite as much upon little things as upon grand things, and her very strength is gained by indulging her artistic sense and leaving her to laugh and revel among things which a man may affect to despise. It is not that she is weaker in intellect than man, or has a narrower grasp of comprehension for great things, but she delights to revel among the beautiful; and if happy, a woman even to old age will always retain something of her child-nature, her innocence and sweetness. The strongest-minded of women, in reality, are often the most simple in manners and least liable to attract the attention of the beholder for their strong-mindedness. It

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is not to be supposed that any one can always be happy, but there is a freedom that comes of appreciation and sympathy that leaves a woman womanly, even amid the saddest sorrows. No person who truly understands woman-nature can believe for a moment that the *world* is her proper sphere. She needs shelter and craves it. But if orphaned or widowed and left to fight for herself, and she exhibit equal intellectual gifts, equal tact and fitness, should she not have equal access with man to good paying positions? If a few from happy homes go forth into the public arena, should they not have equal privileges for testing their abilities for striving there? Necessity compels many to face the world in some way. Should not the very weakness which keeps her upon poor pay win from the men of chivalry an invitation to do her best? Many a woman prefers a home to everything else, and will suffer any inconvenience, any sorrow, almost any humiliation, rather than battle with the world. Others loving home as well, chafe in poverty, chafe in narrowness, and court a wider sphere. Neither beneath the home-roof, nor out in the cold world, should the pure and virtuous be made to feel humiliation for a weakness in material strength with which they have nothing to do. The prevention should lie at every father's and every mother's heart. Brothers should be taught to protect their sisters. Every young woman needs some one to think for her and care for her, or there is a prospect of ruin before her. The great craving of her heart may fasten itself upon something worse than poison, worse than death. The unsuspecting guilelessness of her being leaves her a prey to ravening wolves: because, vile as they are, they know enough to cajole her with kindness at the outset, and the poor, hungry, trusting heart *must* seek somewhere that which its home denies—that for which it starves—and it falls a ready prey to the destroyer. There are few heart-wrecks among maidens which have not their origin in an earlier wrong than the wrong which leaves them floating upon the waves of a heartless world. What is best in their natures wafts them soonest to the rock of their destruction. Fathers, brothers, husbands, think if you were daughters, sisters, and wives, how you would wish to be regarded by those who are stronger than yourselves, and then practice the kindness of treatment you would covet upon the saddened hearts your thoughtlessness and selfishness are driving farther and farther into misery.

MADGE MAPLE.

WHY MAR THE IMAGE?

CHAPTER II.

LIFE AND ITS MYSTERIES.

MR. HARCOURT was in his study, poring over his next Sunday's sermon. "I've news for you," said his landlady, Mrs. Edmondson, the sprightly and sensible woman who kept watch and ward over the domestic comforts of the ministerial dignitary, who for a whole year had made his home in her husband's house.

"What news, pray?"

"Oh, you could never guess, so I may just as well tell you. We're to have a new accession to our charmed home circle, very soon. Do you know her—Sallie Summers?"

"No;" and the clergyman looked up, impatiently holding his pen over the manuscript in nervous hesitation.

Like Holmes' famous parson, he had

> "Got to sixthly, and stopped, perplexed,
> At what the—Moses was coming next."

"No, Mrs. Edmondson, I have not the honor of your friend's acquaintance, and can't say that I'm the least anxious to become acquainted."

"Then I have misjudged you," was the disappointed reply; "for I thought I might presume so much as to hope that you felt at least a polite interest in every one so closely connected with my happiness as is this same Miss Summers."

"I beg your pardon, Mrs. Edmondson. I really did not intend to be rude," said the gentleman, relinquishing his task with a

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smothered sigh. Not that his work was agreeable to his taste. Sermonizing was a task, indeed, quite equal in his hands to the spiritless toil of the writer of measured lines and jingling rhymes, who attempts poesy from "a sense of duty," or because spurred to effort through pecuniary embarrassment.

"Apostolic succession," though a fact, for aught he knew, was to his mind a very meaningless and unimportant one; and the forms and ceremonies to which he professionally adhered as "types and shadows of a ceremonial law," were to his progressing mind like worn-out clothing to him for whom there is plenty that is new in store, or like husks to one who has sometimes eaten sparingly of the bread of life that aboundeth everywhere, and then denies himself further indulgence, lest in accepting truth revealed to him direct from the Infinite, he may set at naught the dicta of some ecclesiastical council that may have lived before him.

"Tell me all about your friend," said Mr. Harcourt, running his fingers through his hair, and looking up into the face of the lady with a smile. "Is she sensible and piquant, and pious and brilliant, and healthy and happy, and handy, and industrious and economical, and amiable and handsome, like yourself?"

"I shall not tell you anything about her, Mr. Harcourt, for you are making sport of me just because I know enough to be an enthusiastic admirer of excellence in either man or woman when I see it!" and Mrs. Edmondson affected a pout that ended, in spite of her vexation, in a playful smile.

"Well, you know my resolve, good friend," replied the clergyman. "I never will allow myself to be entrapped in any sort of matrimonial entanglement, unless my judgment shall approve the desire of my heart. You know that I'm as susceptible to feminine charms and influences as any minister ought to be, and I don't want to be led into the way of any temptation which it would not be right to indulge."

"Then, pardon me, Mr. Harcourt, but you are both a coward and an egotist. You are afraid to meet my lady friend, lest you may be tempted to surrender at discretion. Hadn't you better wait and see whether or not she desires to lay siege to the fort before you begin to crawl behind ambushes? And would it not be equally sensible to imagine that though you might desire an attachment on her part for your own sake, yet she might hold an altogether different opinion? Here you are, steeling your heart in advance against the matrimonial encroachments of my friend! How do you know she'd look at you?"

Mr. Harcourt was annoyed. "I beg a thousand pardons, madam. I was not aware that I passed among ladies as the poltroon and egotist that you portray so graphically. I will try to cultivate both bravery and meekness hereafter. And now, please leave me to finish my sermon; for if I do become enamored of your friend, and she should or should not reciprocate, my head would be so badly turned that I couldn't tell whether I was preaching according to precedent or principle. You know my flock must be fed on precedent. It is the only spiritual food they are willing to pay for."

"Your 'flock,' as you call us, are no more inclined to theological fastidiousness than any other, Mr. Harcourt. You're in a fault-finding mood to-day."

The door-bell rang.

"Take care of your heart," laughed Mrs. Edmondson. "Remember that your judgment is supposed to be strong enough to take care of itself."

The clergyman did not see Miss Summers till he met her at the dinner-table. His sermon was by this time finished, with the exception of a few minor points of doctrine, concerning which he was not quite sure that he had spoken by the books, and which he resolved to search into before he should sleep; so he was in a mood to be pleased.

The young lady was tall, graceful, and slender—too slender to be beautiful—with languishing, gazelle eyes, and an imperious air.

"We are pleased to welcome you to the charmed circle of our inner domestic court," said Mr. Harcourt, gallantly.

"And I am glad, indeed, to meet you sir. Mr. Edmondson has been quoting you

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as authority upon some of his ideal technicalities about life and its mysteries; and I, who make no literary, religious, or scientific pretensions of any sort, and am compelled to refer to the books to bolster my theories, need you as an ally rather than an antagonist."

"When did I ever hear such a speech from a woman?" thought Mr. Harcourt, as a sort of vague apprehension that his new acquaintance intended, from the beginning, to carry him into deep waters, first for the amusement it would afford her to dangle him upon the end of her line, crept through his brain and suffused his face in blushes.

There was an awkward pause.

"Excuse me, Mr. Harcourt," added the lady. "I presume I was quite abrupt; but Mr. Edmondson is cramming his brain with abstruse science, as he terms it, though I see nothing in it but metaphysics gone rabid; and my friend, his wife, is only his echo, so I want to forestall your opinions by enlisting you upon my side for humanity's sake."

"And what, pray, is the topic of discussion? I am charmed to know that I can meet one young lady who does not seem to compel me to say, 'most happy to make your acquaintance;' 'pleasant day;' 'how are you enjoying the opera?' and so forth."

"You asked concerning the theme we were discussing," said Miss Summers, appearing to take no notice of the comments that had followed the question.

"Beg pardon, so I did."

"We are talking about conscience. Mr. Edmondson says Conscientiousness is not a creature of the will or the heart, but of the intellect, and also of the entire physiological make-up of the individual. I hold that conscience is the result of awakened conviction in the soul of a sinner. Now what do you say?"

"Simply that your remark of a while ago entirely sets aside this last one. If I understood you correctly, you said that you rejected all theories, of any sort, for which you were compelled to refer to books for proof."

"She said '*bolster*,'" said Mrs. Edmondson, who was highly elated at the turn into which the conversation had drifted.

"We were speaking, Mr. Harcourt," explained the host, "of a man who is under the death-sentence for murder. I visited him in prison to-day. You know he is to be executed one day next week; and, would you believe it, his Reverence, Spirituality, and Hope are stimulated to such an excess through the spiritual advice he has been receiving through clergymen and ladies, who visit him almost hourly, that he fancies himself the happiest man alive; and I verily believe he would be as badly offended over a reprieve as were the intended victims of a certain Oriental potentate—those victims who were being fattened for the king's table, who were so angry with the missionaries for having rescued them for the jaws of the royal cannibal that they relinquished the high honor of being cooked and eaten with a regret bordering on frenzy."

"And what of it?" asked Miss Summers. "That only goes to prove what I asserted—namely, that conscience has nothing whatever to do with the intellect."

"I should say that the case you have just cited was a matter of taste," said Mrs. Edmondson, addressing her husband, laughingly.

"Do you allude to the murderer or to the intended victims of the royal feast?" asked the clergyman.

"To both, sir, both. This murderer is a man of brutal instincts, yet he has social affection. When his pale wife and forlorn little children visited him to-day, he cried so much that it seemed as if his very heart-strings would rend, and yet that wife's shoulder was once dislocated by a blow from his herculean hand, and the children feared him as though he were a tiger, and that, too, in spite of his chains."

"And what did you observe of his mental development that will aid us in our researches, Mr. Edmondson?" asked the clergyman, turning to the host.

"Nothing new; but only added proof of what we already know. The man has a broad, square, stocky figure, thick neck, broad jaws, narrow forehead, inordinate Destructiveness, weak Benevolence, no

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Caution, and no Conscientiousness. Yet he has large Spirituality, the only development in his nature which is receiving much attention now, hence his religious enthusiasm; though why he can expect to be happy in Heaven when, according to his belief, the man whom he murdered in cold blood was sent to eternal burnings, would be a very hard question to answer were it not that his spiritual advisers, who have had a thousand times greater opportunities to know better than he, are themselves ignorant enough of the eternal laws of justice."

"What were the circumstances of this murder, Mr. Harcourt?" asked Miss Summers. "You will pardon my ignorance; I have been traveling abroad, and am wholly behind you in the gossip of the times."

"Then you haven't lost anything, my friend. The sickening details of all the horrible atrocities, that humanity is guilty of inflicting upon its kind, only increase the tendency to crime a hundred-fold. There is no vice to-day so alarming to contemplate as sensational newspaper gossip."

"And the published reports of the execution of this happy murderer, who expects to be wafted directly to Heaven, and from the end of a hangman's rope at that, will do more harm in increasing crime in the land than all the revival meetings will be able to eradicate," added Mr. Edmondson.

"Are you afraid to acquaint me with the particulars, then, lest I kill somebody?" asked Miss Summers, with irresistible, though affected simplicity.

"I was thinking," continued the host, "of the quick alarm of the authorities, medical and legislative, in case some man, or set of men, should shake abroad, in the gaze of a gaping multitude, the disease-laden garments of a man who had died of leprosy or small-pox. Yet we send abroad our newspapers laden every morning with all sorts of moral leprosy, and these same authorities depend upon the mythical conscience of depraved humanity to resist the spread of the contagion. And now comes the point. Conscience, or Conscientiousness, being the result of inherited tendencies, which are the direct outgrowth of pre-natal conditions and circumstances, the true humanitarian will dive deeper into the mysteries of life than to strive merely to patch, and splinter, and bandage the natural consequences of wrong conditions."

"I don't see where your wisdom and philanthropy would avail in the instance you cite, Mr. Edmondson," said Miss Summers.

"Nor I, either," remarked the wife. "The man is already born and reared, and the terrible deed which condemns him to death has been committed. His inherited Conscientiousness, or its lack, is a thing of the irrevocable past. As I read both science and religion, I find that man can not be born again in this life; so when we send him out into the new birth, at the end of a hangman's rope, we become abortionists of the worst order, vainly attempting to make two wrong deeds—ours and the law's—equivalent to one good one, and only succeeding in sowing yet other seeds of crime, which my husband has very aptly explained in his parable of the pestilence-reeking garments of a man dead of a contagious disease."

"I must say your theory of the new birth is a novel one," said Miss Summers.

"We have outgrown prudishness and its complement, prurience, here," replied her friend, "and I am glad, indeed, that you rise to the level of our conversation."

"'The wind bloweth where it listeth, and thou hearest the sound thereof, but canst not tell whence it cometh or whither it goeth.' So is every one that is born of the Spirit," said Mr. Harcourt.

A light that Miss Summers had not before caught sight of, suddenly illumed her brain.

"What a mystery life is, and what a study!" she exclaimed.

"And how few there be that are ready to drink of the waters of life from the pure fountains of God!" replied the clergyman.

"Do you know, Miss Summers, that if I should preach the Word as I feel that God reveals it to me, I should starve?"

"And do you know that the impulse that prompts me to reply to such a confession, bids me say that I almost—beg pardon—*almost* despise you because you are not willing to starve for the truth's sake?"

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Mrs. Edmondson was shocked. "Are you crazy?" she asked, turning to her guest with a troubled air. "Would *you* be willing to starve for the truth's sake, Miss Summers?"

"I ought to be."

"But that is not the question."

"I do not feel ready to answer, because I never thought of it in that light before. So far as I know, I have always preached, in my own way, of course, whatever has seemed to me to be the truth, and I have never felt called upon to endure persecution for it, either. But I believe, yes, I know that I would crucify my own happiness, and even lay down my own life, for a principle."

Mr. Harcourt looked at her searchingly. He could not doubt but that she was terribly in earnest. A bright hectic burned upon her left cheek, and her great eyes flashed with feeling.

"With such a companion, if *one* with me in thought and purpose, I would die for a principle, too," thought he, forgetting for the nonce his theory of the Temperaments, while he indulged in a dream to which he would not for the world have given audible utterance.

"What of that murderer and his family?" asked Miss Summers. "It seems that we have wandered far from the original text."

"The wife is a pale, sickly, dispirited woman, not over thirty, with good moral and fair mental endowment; pinched by poverty, enthusiastic in religion, and now that she has a prospect of losing her husband. is devotedly attached to him, after the manner of many women, ay, and men, too, in much higher life, who secretly loathe the bonds they openly embrace. The children are direct opposites, in all things, as are the father and mother, in many particulars. The boy, the eldest, is like the mother; has good moral and mental endowment, except that he lacks in perceptive ability. There is no more base to his brain than to a rabbit's, and he will never have sufficient energy to amount to anything, whether good or bad. The girl—well, I should say that she is fitted by nature to be the mother of law-breakers. The woman, who was herself acquainted with the laws of generation, as they are palpably printed upon the marred images of badly-born humanity, would never make herself ridiculous by vehement declarations of conjugal attachment to the father of the child upon whose little unfortunate physiognomy was indelibly stamped the insignia of her outraged sensibilities."

"You see," said Mrs. Edmondson, addressing her guest, "we—my husband, Mr. Harcourt, and I—have been engaged for the past year in an analytical study of the mysteries of life, and we have learned that, as there is nothing in the laws of God or nature that can be impure to the pure in heart, we may talk plainly."

"Which is right and proper; pray proceed," was the sensible reply. "And now, as I think I have done ample justice to an excellent dinner, if you will excuse me, I will retire to my room for a little needed rest. I can not say that I feel that we have settled the vexed question of this mystery of life, or that we have reached any definite conclusion concerning the origin of conscience, but I have been edified and instructed about many things, and hope these conversations will continue for my special enlightenment. Good-night."

The young lady left the dining-room, and the ominous sound of a hollow cough which she had vainly attempted to smother till out of hearing, floated back to the sympathetic ears of her friends.

"Now, Mr. Harcourt, what says your judgment? Have you found your conjugal counterpart? Or, have you ruthlessly decided to refuse all feminine overtures, and give the fascinated fair one over to the hardness of your heart and the reprobacy of your mind?" asked Mrs. Edmondson, laughing.

"That's one of my wife's idiosyncracies, Mr. Harcourt. She's always diluting and perverting our Gospel when you and I are determined to be orthodox, and accept it straight," said the host.

"Never mind him," pouted the wife, playfully; "but tell me—do you not feel deeply interested in my friend?"

"I do."

"Wouldn't she make a splendid wife?"

"My heart says, Yes; my judgment, No. I fear that you have brought me face to face

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with a great trial, Mrs. Edmondson. Did you hear that consumptive-cough?"

"And would you steel your heart against my friend because of her affliction?"

"She knows too much to be willing to ever become my wife. Did not you hear her say to my face that she almost despised me, because I was not ready to starve for truth?"

"I do not wonder, if you are such a novice as to believe she meant that."

"We won't discuss that now. But Miss Summers would never be willing to marry me. Men and women should not marry for themselves alone, or chiefly, but for posterity. We owe to our children health, and vigor, and length of days. Do men gather grapes of thorns, or figs of thistles?"

"Do you mean to compare my friend to these?"

"No; I mean that a corrupt or sickly tree can not produce good or healthy fruit. Of what good to us is the unfolded knowledge of any of the mysteries of life, if we are not willing to suffer martyrdom, if need be, to prevent the evils of life from being visited upon our children from generation to generation?"

"Well, for once, you are carrying your theories too far. Beware how you degenerate into selfishness."

"*Selfish!* am I?" thought the gentleman, as he bade her good-night. "I am beginning to-night my first lesson in self-denial."

ABIGAIL SCOTT DUNIWAY.

(To be continued.)

In Memory of the Two Hundred and Seventy-One

Burned in Brooklyn Theatre, Dec. 5, 1876.

Up from the flames and smoke,
Up rose a trembling wail;
The cords of bondage broke;
Courage was no avail.
Fire, the unappeased king,
Made a mighty offering.

Crash! and the blazing pit
Caught, clasped the empty dust,
Hurriedly buried it,
Blind to the precious trust.
Fire, the unloosed rebel king,
Made a midnight offering.

Where rose the trembling wail,
Hushed at a single breath,
Stoutest of stout hearts quail,
Nameless the chars of death.
Fire, the unrelenting king,
Near three hundred offering.

Sightless, beyond recall,—
Freed souls, the incense grand,
Burst from the hellish thrall,
Curled from the blackening brand.
Fire, the terror-smiting king,
Made a mighty offering.

Up from the flames and smoke,
Up rose the incense pure.
An angel sentry spoke,
"High air is more secure."
God, the great, eternal King,
Took the fire king's offering.

MRS. S. L. OBERHOLTZER.

THE ARTIST AND THE MOTHER.

A YOUNG girl stood over a block of marble, striving with eager, skillful fingers to embody the beautiful ideal that stood so clearly before her mental vision. Day after day, week after week, month after month, she labored with patient industry, throwing her whole soul into the work she loved, till at last the "imprisoned angel" was released, her task ended, and she gazed through eyes almost blinded with tears of joy, upon the work of her hands. Even her eyes, rendered *over*-critical by ardent love for the profession she had chosen, could see nothing to alter, and throwing herself into a chair she feasted upon the lovely creation. But presently the happy glow faded from her eyes, her lip quivered, and a sigh fell softly on the air as she murmured: "So beautiful, and yet lifeless. After all—the highest skill, the greatest genius

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can only produce the *form*. God alone can make the soul."

* * * * *

A young mother sat beside the cradle in which her babe was sleeping. The mother's face was radiant with happiness, yet a look of awe stole over it as she gazed upon her little one. She looked forward into the future and thought, "Ah, if my baby is spared, what a glorious work is mine. And yet my very soul trembles as I think of the fearful responsibility laid upon me. If this little one live to become a man, he must influence for good or evil, so many, many other lives, and what will his influence upon them be? Through his babyhood and childhood, his character will be like plastic clay in my hands. Each word, each act—aye, even each *silent thought* of mine, will have its influence in a greater or less degree. My life, not only outwardly, but inwardly, *must* be pure and noble, for this sensitive little spirit will, all unconsciously, day by day reflect *my* inner life. O God, help me to do the work Thou hast given me to do!"

The sculptress and the mother were the same. Which work is the greater, the nobler—to fashion a lovely image which shall be a "thing of beauty" merely in all eyes, or to mould a little immortal soul and, with God's help, impart to it so much of His likeness that it shall be not merely outwardly beautiful, but inwardly lovely, shedding a holy, elevating influence upon all with whom it has anything to do?

And to every mother is this work given.

IDA T. THURSTON.

THE SHAPE OF THE EAR AND MUSICAL TASTE.

A WRITER in the London *Musical World* says: "A recent cursory description of the well-known Mozarteum, from the pen of an intelligent correspondent of a daily paper, mentions the fact that amongst the interesting relics of the divine composer exhibited to the public gaze at Salzburg, is a drawing of his ear, showing an abnormally large bell, as though nature intended him to be a gifted listener. It is noteworthy that in all portraits, except those painted by the sun itself, next to the boots, the ear seems to present to the painter the greatest difficulty. It is rarely one sees a shoe beautifully drawn—perhaps it is still rarer that the ordinary covering for the feet presents anything that can be made beautiful, even by a skillful draftsman. With the ear the observer can not help remarking the same absence of individuality. Anything will do for an ear, and a daub or two, that would with equal propriety represent a dried fig or an oyster, would do duty for the above organ.

In calling attention to this matter, I venture to submit the results of some of my own observations, in the hope that something more may be elicited on this, as I believe, most interesting question; and I shall be extremely glad if any person, who is of opinion that my conclusions are premature or erratic, will kindly contribute the result of his or her individual experience. Small ears are invariably under great disadvantage. Large ears are usually indicative of a more comprehensive taste. A narrow harp or harp-like opening always denotes a good ear for music. If the harp is very regular, you may safely prognosticate a correct intonation. For a singer, the rim must be very even, and the circle unbroken. Any protuberance on the rim of the ear will occasion a slight discrepancy of detonation; the singer will not be at all times alike. Some have a double harp; this is dangerous to the success of the singer. A perfect double rim is, on the other hand, highly advantageous. This is, however, open to the weakness of being satisfied with sweet sounds of any kind. The ear without a rim is the most dainty and difficult to please. It appears to receive almost, as it were, by selection, only the best sounds; ordinary sounds have no attraction for it. These are a few of the leading features of the ear. Seeing that we have casts of pianists' hands, would it not be as instructive to have casts of composers' ears? Surely the one is as important to the musical student as the other."

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True philosophy is a revelation of the Divine will manifested in creation: it harmonises with all truth, and can not with impunity be neglected.

WINTER TRAVELING IN RUSSIA.

IT is not so very long since the mention of traveling in Russia would have conveyed to our minds only the picture of half-frozen, wholly-wretched human beings, wrapped in furs, and drawn in sledges by rough, but fleet little ponies, over trackless plains of glittering snow. Even now, the idea of traveling by railroad in Russia gives one a little shock, almost equal to that which one receives when hearing the steam-whistle within sight of the pyramids. Of course such surprise is evidence of an ignorance of the present state of Russia as great as that manifested by most Europeans in regard to American matters; yet we must confess to a little astonishment when we read M. Theophile Gautier's invitation (in his "Winter in Russia") to accompany him on a railway journey from St. Petersburg to Moscow.

In Western Europe, the only provision for warmth in the cars is by tin hot-water bottles at the feet of the passengers. With the thermometer marking 12° below zero, it does not require a very vivid imagination to see that these would be speedily converted into so many ice-blocks. In Russia, as in America, the cars are heated by stoves filled with wood, which maintain the temperature at sixty-six or sixty-eight degrees above zero.

On Russian trains the cars are made in compartments communicating by doors, which the traveler may open or shut at will. The outer of these compartments—which opens upon a platform surrounded by a balustrade—forms an ante-room, in which the lighter articles of baggage may be placed, and which serves as a vestibule to the inner or passenger compartment. All the windows are listed with felt.

M. Gautier does not tell us that the inner compartment is more expensive than the other, so we will unhesitatingly follow him, and take possession of one of its spring-bottomed arm-chairs, instead of lying down, or seating ourselves, Turkish-fashion, on one of the long divans which surround the outer compartment. In this inner section of a first-class car we seem rather to be "living in a house on wheels, than enduring the restraints of a public conveyance," for here, as in our own palace-cars, "one is at liberty to rise and walk about anywhere within the compartment with the same amount of freedom enjoyed by the traveler on a steamboat."

In every other country the railroads have been built with a single eye to the needs of commerce, or the convenience of the people; each one preserving its own general direction, but every now and then darting aside to touch at some important town which had "erected itself" before the existence of railroads. In Russia, on the contrary, the railroad appears to exist for itself alone, rushing on its straightforward way, without a glance to its right or left. It starts from St. Petersburg; its destination is Moscow; there are neither mountains nor rivers to turn it aside, and why should it swerve merely to please the towns which have had the folly to place themselves a few miles to one side or the other of this straight path? If the mountain will not come to Mahomet, neither will Mahomet go to the mountain. Hence, when the, to us, uncouth-sounding names of the towns are called out, from time to time, we need not be surprised that we see only a station-building, with a few sledges in waiting, to convey travelers to the towns, whose snow-covered roofs, like little inequalities under a white blanket, may be seen several miles

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away. Even the important city of Tver—the place whence the Volga steamboats start—is "not paid the compliment of a curve or an elbow," but is "passed disdainfully by, and to reach it you must take a sledge or a droschky, according to the time of year."

"The stations, built on a uniform plan, are magnificent. In their architecture the red shades of brick and the white of stone are united in a way pleasing to the eye." A description of one of the principal stations will answer for all. That where the trains from St. Petersburg and Moscow meet and pass, is not placed, like our stations, upon one side of the road, but in the middle, the two long lines of track passing by it, one upon each side. Whether we are allowed more than "twenty minutes for refreshments" we do not know, but this is the dining depot, and here the passengers from the two trains pour out upon the platforms, and pass quickly from the sharp air into the long dining-hall, which seems much more like a very large green-house than like anything we are accustomed to associate with the ordinary railroad station. Even here, the Russian national fondness for plants and flowers is freely indulged, and on either side of the long, wide hall are large, arched windows, giving glimpses of the wide, snowy plains through the most beautiful of all curtains, the broad, silky leaves of tulip-trees, Bourbon-palms, and other tropical plants.

The whole scene suggests a festival in some baronial residence. Far underneath the rich verdure of the exotics we find a table, "splendidly laid, covered with silver and crystal, and bristling with bottles of every sort and of all vintages," though the fragrant "caravan tea," from the steaming "samovar," is more freely partaken of, when at all exposed to the cold, than any other beverage by the native Russian. The waiters, though attired in the conventional black dress-coat, look like very recently caught and tamed Tartars of the desert, so strongly marked is the Mongol physiognomy. In the cookery, even here in the heart of Russia, we find nothing distinctively national, for in cookery, as in fashions, France leads the world.

Here, glancing about upon our fellow-travelers, we find that the train from Moscow has brought passengers "from Archangel, Tobolsk, Kiakhta, and Irkoutsk; from the banks of the Amoor; from the shores of the Caspian; and from Kazan, Tiflis, the Caucasus, the Crimea; from the depths of all the Russias, European and Asiatic, who shake hands in passing with acquaintances from the West, brought by the St. Petersburg train." And all are objects of interest or curiosity to strangers from the outside world. "It is a cosmopolitan love-feast, where are spoken more languages than at the tower of Babel."

At the extremity of the dining-hall are two private parlors, "reserved for travelers of distinction," and scattered through the hall are little booths, where we find for sale all sorts of little things, such as tourists love to present to friends at home. Here are models of the great broken bell of the Kremlin; Russian crosses, of wood, "carved with a patience truly Chinese;" Circassian rugs, "embroidered with silk, on a scarlet ground;" braided belts, made of gold thread; morocco slippers, wrought with gold and silver thread, and hundreds of other trifles, both costly and useless.

Returned on board the train, we have a long night before us, and for some hours rest tranquilly on our divan. But at a little past midnight, we follow our guide, whom the whim has seized to go outside, on the platform of the car, and "contemplate the nocturnal aspect of nature in this northern clime. The winter night is long and deep, but no darkness can quite conceal the white shining of the snow. Under the blackest sky you distinguish its livid pallor spread out like a pall beneath the vaulted roof of a tomb. Vague gleams, bluish phosphorescent lights rise from it. It betrays objects hidden beneath it by the light on the relief, and sketches them as with a white crayon on the black background of the darkness. This wan landscape, whose lines change their axis, and fold themselves rapidly back as the train flies along, has the strangest aspect. For a moment, the moon, piercing the heavy clouds, threw its cold radiance across the icy plain; wherever the light fell,

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the snow shone like silver, while the rest grew azure with bluish shadows. The melancholy is inconceivable of this immense, pale horizon, which appears to reflect the moon and to send back her own light to her. It forms again around the train, always the same, like the sea, and yet the locomotive fled at full speed, flinging out from its funnel crackling sheaves of red sparks; but it seemed to the discouraged eye that we should never get out of this white circle." But the cold, "increased by the displacement of the air," becomes intense, and will not permit us to remain here long. We seek again our sheltered divan, and wait for the morning. M. Gautier thinks that Homer's rosy-fingered Aurora would surely have had chillblains had she been obliged to pull aside the curtains of the morning in a Russian climate, so she very wisely remains in more genial lands, and we here find only her sad-faced sister, Shakespeare's "Morning Grey," who wraps her shivering form in a furred pelisse, and steps with reluctant, whitefelt-shod feet across the frozen snow.

After a few days in Moscow, M. Gautier decides to make an excursion to Troitza in a *kibitka*, a sort of covered sledge, provided with windows, which seem very useless, since they "must never be closed, for the vapor of the breath, condensed upon the glass, will change to ice, and you will find yourself thus deprived of air, and enclosed in a kind of white darkness."

In a temperature of thirty-seven degrees below zero, one will not suffer from heat, even though attired, like M. Gautier, in two entire suits of clothes, in "woollen socks and boots of white felt, enclosed in other furred boots, coming above the knee;" on the head, "a cap of beaver's back, warmly wadded; for gloves, a pair of Samoyed mittens, the thumb alone articulated; and outside of all an enormous fur pelisse, the collar raised in the back as high as the top of the head, in order to defend the nape of the neck, and fastening in front with hooks, in order to defend the face." In addition, a long, thick, worsted muffler is wound five or six times round the neck and chest, binding the pelisse more closely to the body. Thus arrayed, M. Gautier says he resembled "an animated sentry-box;" but, though while in the warm air of his room, all these garments seemed immensely heavy, he no sooner found himself in the outside air than they "appeared as light as Chinese grass-cloth," and the traveling rugs and bear-skins, with which all who were in the kibitka were additionally protected, were far from unwelcome.

"It was perhaps four in the morning. In the blue-black sky the stars throbbed with vivid scintillation and that keen light which indicates intensity of cold; the snow, under the steel runners of the kibitka, emitted a sound like that made by a diamond scratching on glass. There was not a breath of air stirring. You would have said the very wind was congealed. It would have been possible to stand with a lighted candle in the hand without the flames flickering."

The Russian coachman—like the North American Indian—delights in urging his horse to its utmost speed. Our coachman proves no exception to the rule, and "we gallop madly through the silent and solitary streets of Moscow, faintly lighted by reflections from the snow, in default of the dying light of frozen street-lamps."

The Russian landscape is monotonous in the extreme. "All that you see for hundreds of leagues is an endless, white covering, slightly raised here and there by inequalities in the concealed soil, and, according to the obliquity of the sun's rays, streaked, at times, with rosy light or bluish shadows. * * * At distances more or less remote from each other, lines of reddish brush-wood, half emerging from the snow, cut the broad, white expanse. Scattered birches and pines fleck the landscape with dark spots here and there; and posts, like those for telegraph wires, mark out the road, often buried by driving snow-storms. Along the wayside, log-houses, the chinks stuffed with moss, the rafters of the roof crossing each other and making on top a kind of X, bring their sharp peaks into line, and on the edge of the horizon is stretched the low outline of some distant village, over-topped by a church, with its bulbous cupolas. Not a living thing, save flocks of crows and rooks, and sometimes a Mujik, on his sledge, drawn by shaggy, little horses, hauling wood or some other necessary supplies to a dwelling far in the country. * * * Any picturesque effect is rare, and yet one never tires in looking out into this vast expanse, which inspires a vague melancholy, like all things that are great, silent or solitary. Sometimes, in spite of the velocity of the horses, you feel that you must be standing still."

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HOW TO TEACH.*

SELF-ESTEEM.

THIS faculty has been derided and ignored to such an extent that many people recoil at the idea of being supposed to have the organ large. The nature of the faculty is to give dignity, self-reliance, and a sense of one's own worth and value. It appreciates positions of authority, and likes to exercise a ruling influence. It is too small in most people in this country. The crown of the head is flat, and the distance from the opening of the ear to that region is short.

The public is sometimes mistaken in charging persons, having large Approbativeness, with having large Self-esteem. True, the approbative man wants to set off his talents, graces, and achievements, and is apt to talk about what is his, and what he has done, for the sake of attracting attention to himself; but a man with large Self-esteem is not half as likely to boast and to seem egotistical as the other. There is too little dignity and self-reliance—too little independence of perverted public sentiment. Thousands of young men do wrong. They learn to smoke, and drink, and go into bad company, simply because those who are older and more experienced, and have more wealth and influence than themselves, do these things, thus following blindly the dictates of Approbativeness. When Self-esteem is large and a man is self-centered—balanced on his own self-hood—he is not half so likely to follow in the wake of dissipated people as he would be if his Self-esteem were small and Approbativeness large.

In the training and education of the young, this element should not be crushed, but encouraged. The child should never be degraded or under-rated. If it be weak in him, it should be cherished and encouraged by a frequent address to his manliness and his honor. Sometimes children are called debasing names—such as "rascal," "stupid simpleton"—a practice which serves to annoy the child and deprave his disposition, and lower him in his own self-respect. But nine-tenths of the training is addressed to Approbativeness rather than to Self-esteem. The idea is impressed upon the child that his misdeeds will be unpopular, not wrong in themselves. It is not shown that they will be mean and unworthy of him, whether the public knows it or not. We are taught humility, to be sure; and we are also told to "love thy neighbor as thyself." And since we are enjoined to love our neighbor as ourselves, we may love ourselves in equal ratio if the self-love do not degenerate into selfishness.

Whatever may be said against Self-esteem, it is one of the most ennobling of the human characteristics, and when properly shown in others, it wins our respect, though it may sometimes chafe our own self-love.

FIRMNESS.

Firmness is located on the top of the back part of the head, just forward of the crown, and when large it gives elevation to the head at that point directly above the ears. We advise teachers, when favored with one of these tall-headed pupils, to guard against arraying that strong feeling against the requirements of the school.

* From "How to Teach, according to Temperament and Mental Development; or, Phrenology in the School-room and the Family." By Nelson Sizer. S. R. Wells & Co., 737 Broadway, New York, Publishers. Price, by mail, $1.50.

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It is an excellent faculty. It gives strength, sturdiness, presistency, and power to the character; but it may become negative, and stand in the way of all progress and conformity to that which is decorous and accommodating. Those in whom it is strongly marked may be as benevolent, just, friendly, sympathetical, intelligent, and obliging as any person in the assembly; yet if they be commanded, if coercion be offered, if there be a tendency to drive, if a dogmatic, domineering spirit is indicated by the teacher or employer, such persons very frequently brace up and say, "I will not be driven." Reader, how is it with yourself, especially if you have this faculty strong? Can you not be persuaded a mile easier than you can be driven an inch? If people *ask* you to do things that are inconvenient, costly, and troublesome; if they tell you they know it will be difficult and burdensome, but they need the favor so much, they will be greatly obliged if you will condescend to do it; how you put yourself to serious inconvenience that you may benefit them; how their persuasive appeal to you warms up every sentiment of generosity and liberality; but one word or look of command in that direction would brace you up against all their wishes. Falstaff said, "I'll do nothing on compulsion!" and he has had a good many followers. Mothers will bear us witness, if they have children organized in that way, that they never dare assail them with dominant, dictatorial measures with any hope of success. There are men who hire others for years and never command them, but simply say, "When you have finished what you are now doing, you may do this or that;" but a mandatory assertion, anything in a dictatorial way, would arouse Combativeness, Firmness, and perhaps Approbativeness, and the person would resent the dictum as an insult, and perhaps quit the man's service. In military life obedience—prompt, implicit, and complete—is considered honorable; and since orders are generally issued to a platoon, company or regiment, the orders are not personal, as they often are in families, workshops, and stores. But in military life, any commands uttered outside of what is called duty, would be resented just as quickly as they would elsewhere.

Those who are deficient in the faculty of Firmness should have it strengthened and encouraged by every legitimate means. They should be addressed in such a way as to inspire perseverance, positiveness, and strength of purpose, and should be encouraged against vacillation, and braced up wherever it seems to be required. This may be done by setting them about that which requires persistency, strength, and steadfastness; but they should not be overloaded in this respect.

CONTINUITY, OR CONCENTRATIVENESS.

This faculty is sometimes confounded with Firmness; but determination, a resolute, headstrong purpose, is one thing, and patience and self-contained abstraction of mind, is quite another thing. There are certain trades and occupations which require continuity of thought and action; for instance, the sewing of long seams, knitting, weaving, engraving, copying, polishing furniture, carriages, or marble, drilling rock, or hard iron and steel. He who can bring his thought to this monotonous repetition of effort, and keep at it like the pendulum of a clock *ever*, EVER, without permission to hurry

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or to stop, will appreciate it. In study it is an essential element. Some pupils will bend over their books, taking no interest in anything else, neither seeing nor hearing what may be going on around them; they are called absent-minded, but a different term would be more appropriate. Their mind is most essentially at home. It does not wander, and, therefore, is not absent. A person with large Continuity, having this patient, abstract, studious spirit, will accomplish, in the way of study, twice as much as a person of similar talent who can not keep his mind on his book. Some can not study while a class is reciting within hearing, and will follow the recitation in spite of their desire to stick to the book; and while there are some advantages in public recitations where the whole school can hear, there are serious disadvantages connected with it. If there should be entire silence in the room, or such a continuous, uniform, monotonous buzz or noise as to take off the edge of every particular noise, students could study who lack Continuity. The roar or rattle of machinery at first confuses the listener, but time adapts him to it, so that he can read or think quite as well as when there is no noise. Indeed, persons will sleep soundly in a mill where there is a steady roar of machinery; and if the sound be changed, he will at once awake, especially if he is accustomed to attend the machinery and knows the proper or the wrong sound of it.

AMERICAN DIVERSITY.

In America the faculty of Continuity is not as well-developed as it is in most other countries, because in a sparsely-settled country there is not so thorough an analysis or division and classification of labor as in the old countries; hence men become accustomed to do many very different things. It is not strange to find a farmer who can mend shoes, do something at carpentry, or who can tinker up his farming implements; and once in a while we find a farmer who has his blacksmith forge, and does his own work in that line, rudely, to be sure, but it saves paying out the money and answers his purpose; and by changing from one line of effort to another, he gets culture in many ways. A man from Indiana came under our hands for examination, and we described him as having much mechanical ingenuity and small Continuity, and that he would be likely to spend his whole life in learning trades, instead of taking one and following it to perfection. He informed us that he could get full wages at seventeen different trades, but the one he "took up" last, namely, gunsmithing, he liked best, and had followed it for several years. We occasionally find a man in the United States who can do everything passably well in the construction of a house. He can lay the foundation as a stone-mason; as a carpenter, he can put up the frame-work; as a joiner, he does the wood-work; he then plasters the walls and does the painting. If he had lived in a city, he would, probably, have been a master workman in some department, and putting all his talent into it, would have attained eminent distinction.

DIVISION OF LABOR AND STUDY BEST.

The advancement of society requires that each person should adopt some pursuit best calculated to use his faculties to good advantage, that he may serve himself and the public well, and in that way each trade or occupation can be filled by skillful workmen, who are naturally endowed with talent to

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excel; thereby the public is much better served, and objects of art and mechanism are pushed to perfection, and each man bringing his whole mind upon the special department of business, rises higher in his pursuit, works more easily, and can surround himself with more of the comforts of life than if he could manufacture everything he must have, when, of course, everything would be clumsy and not very plentiful. A good library and a course of lyceum lectures will help men to knowledge in other departments than their own, and thus they may be well-informed without having experience in the whole realm of pursuits.

Some pupils having small Continuity desire variety in their studies, while others incline to stick to one or two studies at most. Such might profitably attend to two studies one day and two other studies the next day. One pupil gets tired and nervous when he has written two lines, another wants to write a whole page, and just gets deeply interested at the close, writing the last line the best of all; while the first, if he continue the lesson, the writing becomes poorer and poorer at every line.

During the war, a soldier who had been put on sentry duty on a snowy and miserable night, by some accident had been overlooked and had not been relieved, and was standing a second tour of duty. Hungry, cold, and depressed, he was carrying his gun as if the gun and man were frozen together, when Major Haggerty, a friend of ours —who told us the story—happened to come across him, and noticing his woe-begone look, covered with snow that had been partially melted and frozen all over him, and coming close to him, and seeing who it was, inquired: "Is that you, Mike? What are you doing out here all this time?" Mike answered: "I am standing a sen-tu-ry." The major hurried back to headquarters and reported the case, when Mike was relieved of centennial duty. It was a lesson in continuity too severe for him.

THE SOCIAL NATURE.

There are five faculties which constitute this group, and their organs are located in the back part of the head, and when large, give not only roundness and fullness to that section, but length from the opening of the ear backward. These we have analyzed extendedly in a small work, to which we refer the reader.* These organs are, first,

AMATIVENESS.

This tends to give kindness and courtesy between the sexes, and exercises a powerful influence for good upon all who are rightly related to life in this respect. The separation of the sexes in school-culture, we think, is a mistake. Each desires to please the other; and where this influence is brought silently and distantly to bear, it will awaken ambition, moral feeling, and the practice of general decorum. Each is put upon his or her good behavior. Boys and girls are born into a family, and each aids in the culture of the other. The boy who is so unfortunate as to have no sister, shows it when he goes into society by a kind of awkward bashfulness. The daughter who has no brothers is unfortunate, because when she enters society she has a lack of strength, and poise, and power which she would have acquired in the society of noble-hearted, manly brothers. Separation does not

* "Thoughts on Domestic Life; or, Marriage Vindicated, and Free Love Exposed." S. R. Wells & Co., New York, publishers. Price 25 cents.

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necessarily secure the objects sought in the separation. Morbid mystery and uncertain yearning of soul for companionship will not be silenced by separation. If it required an argument to show that men and women exert a silent, salutary influence upon each other, a moment's thought as to the social morals of soldiers, miners, and sailors in their isolation will at once solve it. Women gathered in shops or factories, and separated from the unspoken yet benign influence of the society of the opposite sex, to act as a stimulus to good behavior and correct deportment, become careless of their appearance, of their language and manners; and their remark, "There is nobody here but the girls," shows that they need an influence which will promote decorum, grace, and good manners.

CONJUGAL LOVE.

This is supposed to lay the foundation for that individualism in love that leads one to select from all the world his beloved object, and remain true to that one for life. This is manifested by certain birds and animals as well as by human beings, and in respect to mankind, the life-long union is the normal condition of social life. For an extended analysis of this important faculty, we refer the reader to the work before mentioned.

PARENTAL LOVE.

Dr. Spurzheim gave this the long yet meaningful name of Philo-progenitiveness, or the love of progeny. Parental affection is pretty well understood. The little girl shows her mother-feeling in caring for her doll, and imagining it to be the prettiest of babes. The faculty, or, more properly, propensity, gives also a love for young animals, a fondness for pets, a tendency to cherish whatever will look up to us and trust us. Man learns to love his horse, his dog, his ox, his cow. And he who, walking the field upon his farm, is seen to have all his animals follow him, running to him from every quarter of the field, and being reluctant to have him leave them, has in their conduct a certificate of good behavior and tenderness toward them. No person should be a teacher who is deficient in this respect, unless it be in the senior class in college; for parental regard and sympathy toward young persons on the part of the teacher is to them a means of grace and salvation. Persons who have this element strongly marked, especially if Veneration be well-developed, are fond of elderly people—those who have become a second time children.

FRIENDSHIP—ADHESIVENESS.

This is the basis of the gregarious instinct. Many of the lower animals show it strongly. They go in flocks or droves. Some are solitary in their habits, and lack friendship or adhesiveness. It is not confined to sex, nor much influenced by it. Girls become attached to girls, and boys to boys, for life. The friendship of early days, and especially of school-life, often lasts through life. Those in whom the feeling is strong like to study in company. They join associations, fraternities, clubs; companionship must be interwoven with all they do.

This is a powerful element in the process of government and instruction. The teacher who can win the affections of pupils readily, becomes their loving master. They like the teacher because the teacher likes them, and when this fraternal, interblending spirit is once established, the law of love is the law

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of the school. Persons who are deficient in this respect rarely become good teachers, because pupils will not adhere to them, will not feel drawn toward them, and will not encourage them to like teaching.

INHABITIVENESS.

This gives us the love of place and home, and constitutes a kind of band or enclosure which brings all the other friendships and affections into co-operation. The word "home" embraces all that relates to love, affection, childhood, fraternity. Patriotism grows out of the love of home, and this love of home and country is regarded in some parts of the world as a great grace, and he who is destitute of patriotism is unworthy of human sympathy or brotherhood. Those who are home-sick when they go away to school, those who daily hurry home from school, evince it, not because they are hungry, but because they want to see home, and the little one, and the pets, and mother; these are they who have a mortgage on all that is loving and affectionate, and who can contribute to the common stock of fraternal affection. True, they want a particular seat or place in the school; they are not satisfied to change their place; they want a special seat at the table; they think a great deal of the old hearthstone, garden, lawn, in short, home; and the song "Sweet Home" tells to the one with large Inhabitiveness of a thousand joys that home has yielded.

SUBLIMITY.

This organ is located next to that of Ideality, backward, and for many years that whole section of the head was treated as a single organ. It was called the love of the sublime and the beautiful; but sublimity does not necessarily involve beauty. The rugged mountain of granite-rock, without a single green thing upon its bare face, furnishes food for this faculty. The crashing thunder of the storm, the hoarse howling of the tempest, the roar of the ocean, and its fierce warfare with the rocky shore—whatever is bleak, barren, and majestic, though full of magnitude and strength—gratifies this feeling.

If one will read the poets, he will find evidences of this feeling in his authors. Shakespeare speaks of the raging storm—

"That takes the ruffain billows by the top,
Curling their monstrous heads and hanging them
With deafening clamor in the slippery clouds."

While Ideality, in the language of Pope,

"Warms in the sun, refreshes in the breeze,
Glows in the stars, and blossoms in the trees."

Children may be taught, very properly, that every work of the Creator, every mighty evolution of nature, is the handiwork of the Almighty, and should be regarded with admiration as a part of the great plan of creation and of life. Sublimity and Ideality are near neighbors. They belong to the poet, but they are as far apart in their language as the rugged granite is different from smiling beauty.

"RESOLVE at the start to win success by faithful and earnest work; to be true to the vocation chosen, and by your own virtue and fidelity therein to raise yourself and your business to renown. Look not upon your vocation as a sponge to be squeezed, or as a selfish man may regard a livery horse which he hires for a day; but as a part of yourself, to be imbued with your own virtue, wisdom, skill, and power.'
—From "*Choice of Pursuits.*"

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THE FUTURE OF JAPAN.

INTEREST in the world beyond us has never been general. Only leading minds have studied the social and political fabric of any remote nation. To-day a change is manifest—not radical and sweeping, it is true, but the current is setting strongly in the direction of an awakened populace. Our Centennial year has brought to us representatives of every civilized nation in the world. They have mingled with us socially, and seem no longer strangers. Now we would gladly learn more of their history, of their social condition, and of their prospects of future success. Perhaps, of them all, none can present a history more curious, and withal more startling, than the distant island of Japan. In this brief review, however, it is not my purpose to speak of her history, only so far as it must be included in a discussion of her future. A wondrous tale might indeed be woven from her superstitions and unique social views. It would be full of suggestion for the student of human nature and full of interest for the general reader. Then, too, it might be full of warning to the extreme conservatist. It might be surprising for him to note what power that conceited principle may have to drag a nation back from enlightenment into darkness. But if this be pleasing and instructive, it is truly wonderful to witness that sudden revolution in national sentiment, and that subsequent absorption of foreign ideas and customs. We are justly proud of our advancement in a *century*, but within a period of *thirty* years, Japan has leaped from the darkness of the middle ages into the brilliant civilization of the nineteenth century. It is actually without a parallel in the past.

To judge of the future is always hazardous; even more so, when we have no analogous case in history. But we know that the law of sequence controls the destiny of nations, and thus the near future becomes dependent upon the present, while the real condition of the present may best be sought in the past. So, when we approach to consider whether, like the doomed races of America, the Japanese will be swept away by the advancing hordes of the civilized nations, or whether they are to become a light in the East, we must seek in the overthrow of the "Shogun"—that vassal of the Mikado, who, through gradually increasing power and native tact, grew strong enough to usurp his power—for that spirit of the people in which to-day they are swallowing every morsel of civilization thrown to them from the cultivated nations of the East. We shall see that it was not a slavish spirit of subjection, inspired by the advent of foreigners, as many have erroneously supposed, but that it is the result of natural development, and that the additional foreign impulse gave to it the semblance of a hot-bed growth; that these reforms will be permanent because they were instituted to meet the demands of an advancing civilization, and because they were not forced upon them by ironclads and cannon balls. We know that every revolution must meet with a reaction. Whether such sweeping changes as Japan has recently witnessed may prove an exception, we shall soon consider. Bearing these principles in mind, I may offer a few plausible conjectures as to her future progress.

For centuries foreign nations had no access to Japan. A country shut up within sea-barred gates; a ruler like the land he was said to govern, imprisoned in his palace; a sceptre swayed by a conceited vassal; a nation split into feudaries; a people oppressed, but still prosperous—was a scene which a few gleams of light, darting through the Dutch factory at Desima, revealed to us as the land of the Mikado, a score and a half of years ago. To a foreign observer it did not seem probable that any change would soon be wrought. No one supposed that for the Shogun there was anything in the future save continued prosperity; that feudalism which had arisen when the power of the Mikado declined, could ever fall; and that the people, hating foreigners and foreign customs, could ever change. But this peace under the Shogun, which for two centuries had been lulling the masses to repose, was a period of intellectual development. When brawn goes down, the intellect rises. The priests had been studying. They became

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convinced that the Shogun was a vile ursurper. Convinced themselves, they must convince others. Books were written; results were soon seen; patriots longed for the return of the Mikado to power; passion restrained by reason, shapes a purpose; the Shogun must be taught a lesson; those who would listen could hear the tramp of the on-coming host; against the hour for action men escaped to other countries to study the arts of war; just then the foreign element struck the coast of Japan; the shock brought the two factions into collision; the Mikado rose; the Shogun fell, feudalism with him, and upon its ruins national unity—a new and nobler structure—was reared. This was the essential factor in the modern history of Japan. Had not these elements of a nascent civilization been fused at this juncture, the future of Japan would have been only a repetition of the baronical struggles of a feudal England—a powerless king—a shattered nation. To preserve her newly-found unity, and to assert her position among the nations whose peer she now aspired to become, she called into existence a military force; and this internal source of strength she seeks to enlarge by training the entire male population to the use of arms.

National unity, backed up by military strength, paved the way to greater changes. When the news of western civilization reached this land of the Mikado, it surged over the whole nation, wiping out forever the old landmarks of heathenism. It was the dawning of a new era. The noblest trait in the Japanese character is his willingness to change for the better when he discovers his inferiority. Growing out of this feature, a purpose revealed itself to abolish the accursed system of espionage which was poisoning the fountain-head of everything noble in Japanese life. Then the same progressive spirit obliterated the laws of caste, and loosed the people from the chains of degrading habit. It lulled suspicion, and taught reverence for foreign influence. It broke the fetters of intellectual freedom; unlocked the island to commerce, and welcomed the iron steed to do its bidding. To Christianity, once hunted from the empire, it offered a home. It planted lighthouses along the coast to warn the mariner of danger. It gave birth to a new ideal of education, and founded universities and free schools upon English and American models. With quickened vision it traced the degrading influence of concubinage upon the national character, and soon the custom fell into disuse. It changed the conception of justice; where revenge was encouraged and murder often justified, the penal code was revised. It stamped an impress upon their national faith. Where the year was thickly dotted with heathen holidays, now all have been abolished, and the Christian Sunday substituted. Where the doctrines of Shintooism taught that all dead bodies were a defilement, and prevented progress in science, now the sanctifying influence of Christianity has shown the folly and barbarism of such a policy. This liberalism can not fail to infuse new life into a community which seemed fossilized by Confucianism for this world, and by Buddhism for the next.

If all this be but the semblance of civilization; if these reforms are not assimilated into the life-blood of the nation, they avail little or nothing. Assuredly a strong opposition would have sprung up in the Japanese mind had cannon balls forced western civilization upon them. But even though it is not the outgrowth of Japanese thought, it is, at least, the embodiment of their undefined longings. When they unbarred the doors of their nation, they saw western civilization towering above them, and they recognized at once the full-grown realization of their own indistinct ideal. Thus prepared to accept the benefits of civilization they willingly and eagerly began its study and practice. Japanese thought is completely engrossed in this effort, because this spirit of progress is in harmony with their tastes and genius as a people.

The Japanese have always been eager for improvement, and are peculiarly impressive. In the fourth century they borrowed a Chinese civilization, and all through the centuries their national character has borne the impress. Will it not be the same with the western? Already on the old Japanese stock the seed of the Banyan has been nourished; its rootlets have pierced deeply

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into Japanese life: to tear it out would be to tear at the heart of the nation. Japan will never return to her darkness. The influence of Christian tenets, and contact with culture, can never be effaced. Japanese blood has mingled with "barbarian." She can never more expel the intruder and gather her children from the four winds of heaven. Moreover, will not her present policy constantly improve? The Mikado, advised by his cabinet, has supreme power. He is a man of great independence, and the members of his cabinet are sworn votaries of progress. When the Mikado assumed sway, he declared that the justice and firmness displayed in the workings of nature should be sought as the basis of empire. All has not been accomplished, to be sure, but scarcely a score of years has passed; and is the impossible to be censured? Blindness to error is not a Japanese characteristic. When defects in their policy are shown, we may not expect a second demonstration.

Japanese progress, in these few years of their new life, has been almost as great as other nations have made in as many centuries. Is there no meaning in this lightning speed? No import in this mad haste? Easily can we trace forces working out a reaction. Telegraphs, railways, lighthouses, and colleges are expensive. Civilization is draining the empire. Her revenue is limited. Nothing comes from foreign sources. The government refuses to remove the duties on exports. Cultivation is neglected, still the outlay goes on. Relief is sought in repeated issues of paper currency; but long ago it reached a great excess. Bankruptcy is staring Japan in the face. The strain grows more severe. Excessive effort must give way to a financial crisis from which she can not rise in a moment. The longer this is now deferred, so much the longer will be its duration.

When her financial prosperity is restored, it must be from internal sources. Japan is, by nature, a productive island, abounding in mineral and vegetable wealth. By the improved systems of mining, and the higher arts of agriculture, a large revenue can, ere long, be established. Foreign countries will be her market, commerce her caravan. By reason of this fact, a system of monopoly, the outgrowth of Japanese clannishness, will be felt in prolonging her depression. The Japanese are a jealous people; they desire the whole profit for themselves. To further this end, the government lends its sanction to this complete system. As a result, it controls foreign trade at its will. This may be very well for present profits, but when foreign nations find that Japanese trade is unprofitable, they will desert her ports. So that, as long as monopoly shall discourage commercial intercourse, we may expect a prolonged depression. But, ultimately, Japan will discover her mistake. Then will the evil be remedied. While the reforms already effected are taking root, her financial condition will be improving. Though she may rise slowly, she will rise the more wisely for her experience.

Thus we have sought to show that an impulse from within re-established the Mikado in power, overthrew feudalism, and gave rise to national unity; that the expedition of 1854 merely hastened what was already inevitable; that a desire for something better arose from within, and national unity at once permitted the universal adoption of the western civilization; that this is already so thoroughly assimilated into the national life, that a retrograde movement is impossible, and future progress certain. That these rapid strides are necessitating a reaction; that a financial crisis is impending; but that the storm-clouds must clear away, and Japan become the typical nation of the East —the Britain of the Pacific Ocean.

The god of progress is beckoning; the goddess of success is smiling; Japan has responded; and full of hope, and full of determination, she has joined the grand army of progress.

GRANVILLE M. TEMPELTON.

MINERAL WOOL.—Considerable interest is manifested in the product known as mineral wool, an article that has all the appearance of wool, although it does not come from a sheep's back. The wool is the product of the blast furnace. Furnacemen have always noticed the occurrence of fibrous silica in cavities in the walls of the hearth

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of blast furnaces, and also in the tuyeres; and an instance of the so-called volatility of slack at high temperatures was recorded as having taken place in a potter's kiln through which a large stream was allowed to pass. This matter is known under various names, such as dross glass, mineral wool, slag wool, silicate cotton, and vitreous fibre. In the Sandwich Islands the wool is made from material formed in one of the craters, and by the action of air currents from the same. This furnace slack or waste is now put through a process of manufacture, and it bids fair to become a most important item in the world's commerce. The product is made, as stated above, of various grades. Some of it is coarse and dark-colored, but it can be made as purely white and clean as real wool. Its great feature is its incombustibility, as it will not burn; and the fact that moisture and dampness have no perceptible effect upon it. Vermin avoid it. It will no doubt find many uses for which it is well adapted, and the great waste of the blast furnace will have a market at from two to five cents per pound.

THE ABODE OF HAPPINESS.

FROM THE GERMAN OF GITTERMANN.

In search of true felicity
Wise Sadi half a century
Had wandered, 'mid the splendors of the throne,
And 'mid the dust of humble cottages.
Where could he meet with perfect happiness?
Where, underneath which zone?
Still his vain search, and many a weary strife,
Embittered to the sage his cup of life.

One day he strayed into a dismal wood;
At once, the waving tree-tops reaching o'er,
Disclosed a lofty temple near,
Built many centuries before.

In silence he ascends the outer stair,
And through the stately halls with reverent awe
He treads; at last a door appears, and there
These lines inscribed he saw:
"Here is no mourning; hence is banished care;
Here grief is mute; here rests the heart fore'er."

"Oh, of my life the happiest moment this!
Thus have I found at length the home of bliss!
Oh, happiness, but now I'm nearing thee!"
Thus cries the sage in ecstasy.
He lifts the door, trembling with glad surprise.
What sees he there? With startled eyes
He downward stares into the yawning gloom,
And there beholds—say what?—*a tomb!* S.

A SKETCH OF SOUTHERN POLITICAL ASPECTS.

IT is a great drawback to the national prosperity of the Southern sections, as well as of other sections of the Union, that elections are of annual occurrence, and cast at a time of the year when crops are ready for gathering; and the care of them should occupy the people's mind to the exclusion of other subjects. The Southern people are generally of ardent, excitable temperament, and elections act upon them like the long-fermented juice of the grape, the old wine that fires hot blood to the boiling point. From the white people the excitement is speedily communicated to the blacks having their abode among them, and a common interest in the general peace and prosperity. These black people, as a rule, live "from hand to mouth;" their long habits of dependence on the providence of owners have made them shiftless, careless, and extravagant. Whether working for wages on a "share crop," or renting land for a certain proportion of cotton, they still show a disposition to live for the present only, and lay up nothing for the future. All three of these classes of laborers—the workers for wages, the share-croppers, and the rentors—carry on their operations on a *credit* basis. The land-owner and the merchant who "runs" the rentees and rentors, both buy their goods on credit, sell them at a heavy percentage to the farmers, white and black, on long or short credit, taking, if there is any risk in the reliability of the rentor, a mortgage on his crop, to be collected in the fall; said mortgage taking precedence of all other debts, save only the dues of the land-owner. This ruinous credit system

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really involves a species of vassalage; the land-owner being at the mercy of his commission merchant, to whom he is in honor bound to forward his cotton as fast as he gets it out to pay for the year's advances, while the merchant charges heavy commission, and sells the cotton at pretty much his own figures. The small white farmers and negro tenants are in the same category, having mortgaged and spent the full value of their cotton crop months before it is all gathered.

And now at this critical time, when the fields are white with cotton, looking pure as new-fallen snow, and every available hand should be busily picking, the news is bruited abroad that the opposing candidates at the coming election will speak on a certain Monday in the county town. Simultaneously the laborers leave their burdened fields, and hie to the scene on whatsoever horse-flesh they can command. Arrived at village, town, cross-roads, or precinct, vile whiskey circulates freely; inflammatory and abusive speeches are made by the opposing candidates, old worn-out prejudices and passions rekindled; some excitable youth, maddened by whiskey and party rage, fires a pistol at random, with a maudlin whoopee! and a riot ensues. Good men, brave men, cool-headed and sagacious, rush into the melée, and restore peace at the hazard, and not seldom, loss of their own lives; and the white and black partisans disperse to their homes, but with uneasy, restless, vindictive feelings toward each other. No good has been done by the speech-making—the two races have only been confirmed in their bitter partisanship; and meantime, September cyclone, storm, or tornado comes up, and the snowy cotton harvest is drenched and soiled, and hurled from the pliant stems to a muddy bed among its torn and draggled leaves.

How many regret the time wasted in political demonstrations, when the close of the year shows a falling off of at least one-third of the number of cotton-bales they had calculated on making. And these demonstrations, of a piece and parcel with the party speech-making, amount to nothing in the long run. Each party raises a pole and a flag, costing thirty, forty, or fifty dollars. Crowds of farmers are induced to come to town in "club uniform," and march around on their poor grass-fed mules, hurrahing themselves hoarse for party names, utterly ignorant, in many instances, of the issues and principles involved. The votes of many of these poor fellows (white, as well as black,) may be secured for the ticket which "treats" them on their way to the polls to a drink of "dead-shot whiskey."

I see very little hope for the farming population of the South, except in that organization already so powerful in numbers, known as the Patrons of Husbandry. This order goes to the root of the matter, by insisting that the laborer become self-sustaining by raising his own provisions, making his cotton planting a secondary interest. Next it proposes to help the poor farmer out of the slough of despond into which *living on credit*, and in a state of ignorance has thrown him, by aiding him to *educate* himself. At the monthly Grange meetings social friction develops latent talent, and friendly competition infuses a spirit of energy and enterprise. Papers and magazines change hands, and new and improved ideas take root and spread. The grand subject of co-operative industry is introduced, discussed, and makes the use of improved machinery possible in neighborhoods where before it could not have been dreamed of. Exciting debate and party rancor are banished from the Grange, giving place to dispassionate discussion of those material interests on which the real prosperity of the country depends. The result may be briefly summed up as follows: The prevalence of a more neighborly spirit, improved modes of crop-making, and a general dispensation of more *liberal* ideas. C.

A DIETETIC INCIDENT.—A Chinaman's teeth began to chatter over the ice cream. He buttoned up his jacket and swallowed another mouthful. That settled it. He jumped up from the table and started to where the sun could shine on him, exclaiming: "Whoopee! Plenty cold grub! No cookee nuff! Freeze belly all same like ice-wagon." He was about right.

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It is only by training all together—the physical, intellectual, and spiritual elements—that the complete man can be formed.

LETTERS TO A SON IN COLLEGE.

No. II.

MY DEAR BOY: In my previous letter I said that the object of education is to rear to the perfection of which they are susceptible, the various physical and mental powers with which we are endowed; and that knowledge is useful in proportion as it contributes to the development of our higher nature. In looking over your schedule of study, I find that about three-fourths of your instruction for the first year is devoted to Latin, Greek, and mathematics; and of the remainder, not more than one-twelfth to the laws which govern your physical and mental development. This, I think, is to be regretted. Not that those studies which receive so much attention may not be useful, but because it is of so much greater importance that this latter subject should receive the student's attention at the outset of his career. For, if my definition of the object of education be correct, it must be evident to you that a knowledge of our various organs and faculties, the laws of their operation, and how each may be best trained and developed, must be the foundation upon which a correct system of education should be built.

Were a man to attempt to run a delicate and complicated machine without having studied its parts, their mode of operation, how each influenced and was influenced by the others, and made himself familiar with all the delicate manipulations essential to its successful management, it would occasion you but little surprise if he broke it or completely disordered its working. Equally unreasonable is it for any individual to attempt to train and develop mind and body without a knowledge of their elementary principles, and the laws which govern their development.

If your teachers say that these things should be attended to before the student enters college, I cordially agree with them. But they should make sure that he has attended to them, by giving him a thorough examination in this department, as one of the conditions of admission to their course of instruction. If they neglect this, and if in consequence they find that students come to them ignorant of this important knowledge, then they should give them such instruction at the very outset in regard to the proper care and management of themselves as will enable the pupil to co-operate with the teacher in securing the greatest advantage from his instructions.

But I suspect that the real cause of this great neglect in our higher institutions of learning, is that our learned men do not fully appreciate the importance of this branch of instruction. They have studied deeply the literature and institutions of the ancient Greeks and Romans. They have extolled their remarkable excellence in art, and held them up as models of physical and mental culture; but they have failed in making a practically useful application of their knowledge of the means by which these results have been attained. They have acquiesced in the wisdom of the old Greek and Latin mottoes, *Gnothi seauton*, and *Mens sana in corpore sano*, but so far as practical results appear, they have never fathomed the full depth of their meaning. I do not wish to imply that no attention is given in our colleges to this matter, which I consider so im-

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portant. I would give them all credit for their gymnasia, and their instruction in those branches which treat of the mental and physical nature of man; but when we see so many young men graduating from these institutions; large of brain, but small and feeble of body; cultured in science, art, and literature, but ignorant of a practically useful philosophy of human nature; when we see hydra-headed disease pursuing them along the dusty highway of life, preying upon their footsteps, robbing them of their usefulness, and cutting them off in the flush of youth or the prime of manhood, I can not but think that our higher institutions of learning fall very far short of attaining the great object for which they profess to strive: the harmonious development of the individual, and his preparation to meet successfully the temptations and the duties and responsibilities of life.

Said a man of culture, while racked with torturing pain brought on by unwise zeal in a benevolent cause, "How greatly should I have been benefited if one month of the five years which I was forced to spend in a vain attempt to acquire a mastery over the Latin tongue, had been dedicated to conveying to me information concerning the structure of my body and the causes which preserve and impair its functions."

Concerning my own experience, I may say that I spent four years in one of our first colleges, without having acquired even a suspicion that a breakfast of buckwheat cakes, butter, and syrup would not supply the physical waste of an intellectual effort as well as one of oatmeal, eggs, or fish; in fact, without receiving any instruction whatever in regard to the adaptability of different articles of food to supply the needs of the system. Yet it would have been casting reproach upon the intelligence of our professors to suppose them ignorant of the facts which science has brought to light in regard to the properties of the various articles in common use for food. They must surely have had sufficient generalizing power to have seen that if attention to the laws of diet was useful to the ancient athlete, in preparing him for his games; if it is of importance to the modern prize-fighter, in developing in him the highest physical strength and vigor to pummel his fellow-man, it can not with impunity be ignored by the student, in fitting him in the best manner for his moral and intellectual conflict with the evils and ignorance of the world.

Now, while I deplore the neglect with which the study of man's nature is treated by our higher institutions of learning, I value their instruction in other departments very highly. I hope, therefore, you will not allow what I have said to diminish your confidence in your instructors, or your zeal in those branches of study which I have placed secondary in importance. Give due diligence to these, and I will endeavor to give you such practical advice in regard to those matters which immediately concern your physical well-being, as will supplement your instruction in the other departments.

Were I to discourse to you in regard to the importance of health, you would probably grow impatient, and exclaim: "It is needless to spend time talking upon this trite subject! Every one concedes that health is essential to the real enjoyment of life and the proper performance of its duties. No one denies that pain and disease are great evils, and that health is the highest of earthly blessings." But when I look around me, and behold the world peopled with groaning invalids, and disease in a thousand forms making wretched the habitations of men, I can not deem trite or trivial any subject in which so much of human happiness and misery is involved; or refrain from inquiring into the causes which promote so great a boon as health, or bring upon us so great a scourge as disease.

Let me impress upon you, then, the importance of a sound physical organization as the foundation upon which your success in college, as well as your success in after-life, must be built.

I know you will say that there are often found brilliant minds in feeble bodies; perhaps some of the best scholars in your class are notably deficient in physical vigor. But follow these lights for a few years, and you will find them burned down to the socket when the active duties of life require a blaze that is strong and unwavering. It is not

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the spurt which wins the race, but it is the steady and energetic effort, sustained by a vigorous body and well-trained muscles. So in the race of life: of what avail is a brilliant effort in the heyday of life, when the heart is fresh and vigorous, if it leave us panting and exhausted on the very threshold of life's usefulness. Let all your intellectual efforts and aspirations, therefore, be subordinate to your physical health, and you will realize the first condition of success and lasting usefulness.

Before we go farther, it may be well for you to have clear ideas of what health and disease really are. Health, I take it, is the result of the harmonious activity of all our bodily organs in accordance with the laws of their organization. Disease is the penalty which we suffer for the violation of laws by which those bodily organs are governed. Looking at the subject from this standpoint, our interest and our duty as rational and accountable beings become equally apparent. For, if the Creator has imposed upon our bodies fixed constitutions, and regulated them by definite laws, then it is our duty to become familiar with that constitution, and to yield obedience to those laws. And, if neglecting this, we suffer in disease the penalty of our ignorance and disobedience, then it becomes apparent that it is equally our interest, as it is our duty, to study and yield obedience to the laws which the Creator has imposed on our physical frames.

I wish to impress upon you the *duty* of yielding obedience to the laws of health, because the claim which the Creator's organic laws have upon our moral sense is too generally ignored. It seems, indeed, a strange inconsistency that good, conscientious Christians should present themselves before the throne of grace with praises and thanksgivings, rejoicing in the near and soul-satisfying communion with their Maker, accepting the physical evils which befall them in humble resignation, as the chastenings of a loving Parent, petitioning them for spiritual blessings and temporal prosperity, when they present their bodies before Him racked with pain and wasted with disease, the unhappy monuments of the violation of laws which He has wisely framed for their welfare and happiness. I hold that it is our duty to study the laws of the Creator, and yield them obedience wherever they exist; that His laws are written in our members as truly as in His statute book; and that the violation of either is sin.

Now, the first condition of obedience is knowledge. That a youth may do his duty, he must first know it; and, that he may know it, it is important that he receive instruction in it from those who have charge of his education. So far as instruction in the technical knowledge of your physical frame is concerned, your teachers will, perhaps, not be found wanting in duty; for some time during your college course you will receive instruction in Anatomy and Physiology, and have an opportunity of becoming familiar with the structure, function, and laws of activity of your various bodily organs. But you will find it of little use to know the number and names of the bones and muscles, how the stomach digests the food, how the heart circulates the blood, or the lungs effect its sanguification, if you be not trained to make a practical application of this knowledge in your daily life. For it can be useful to you only as it helps to preserve you from, or reform, evil habits, and to raise you above ignorant and hurtful customs and prejudices, by giving you correct principles for the guidance of your conduct in all situations where the health of the physical system is concerned. And in order to this, not only must the intellect be well informed, but the propensities and sentiments must be trained to yield implicit obedience to its dictates.

As you will receive instruction in the details of Physiology, I will confine myself to such general observations as will tend to impress you with the importance of the subject, and to particular instruction in those matters only which I deem of the greatest moment, but which are commonly overlooked and neglected. In my next letter, therefore, I will make some practical observations on the function of digestion.

Affectionately yours,

PATER CONFIDENS.

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YELLOW FEVER.

FEVER as a medical term, has never been clearly defined. Authors have always been in dispute about its nature and essence, scarcely any two agreeing as to what it actually is. All, however, agree in naming it according to the symptoms manifested; as when the skin becomes scarlet, they say their patient has scarlet fever; when it becomes red, they say he has red fever, also called rubeola, or measles; when it becomes spotted, they say he has spotted fever; when varied, red and dark, they say he has variola or small-pox fever, and when the skin becomes yellow they say he has yellow fever. Unfortunately for the world of mankind, physicians, in their attempt to control these different symptoms by various drug medication, forget one physiological and axiomatic fact: that fever is one and the same thing, no matter what symptoms occur; and, therefore, what will cure one, will cure all. Whatever the cause of vital disturbance, two phenomena are always present in fever: increased action of the heart and lungs, and a corresponding increase of heat. As there never was a fever without these two conditions, increased vital action and increased heat, it follows that they are the sum total, the very essence of fever, and all there is of it; the symptoms which give the different names varying according to the various causes of vital disturbance and the attending conditions. This neglect of the observance of well-known facts in the physiology of man, has given rise to all the vain speculations of authors on the subject of fever, and the consequent worse than useless medicating for its higher types. All the exanthems, and every other form known as synnochus, are treated with no better success to-day under the popular sedative medication, than they were fifty years ago under the use of the lancet and drastic purgation.

Owing to the fact that medical men have overlooked the truth which lay so near to them, and based their theories on pathological symptoms instead of physiological action, they have made the mistake of treating the *symptoms* of fever, instead of the thing itself. We have seen that two phenomena are always present in fever, no matter what the name, and actually constitute it, viz.: increased vital action, and increased heat. In the first place, let us see what should be done about the increased vital action. When the human being is in health, the heart beats and the lungs respire regularly and normally, according to age, sex, and condition; and the normal heat resulting from that normal action, is 98° in the axilla, or under the tongue; the worn-out tissues and unassimilated food being cast out through the depurating organs, the skin, lungs, bowels, and kidneys, without the least ill-effect.

This all happens under the normal stimuli of proper food and drink, pure air, appropriate exercise and rest, cheerful mental impressions, and, in short, everything contained in physical and mental hygiene. These things are said to be imical, or agreeable to the Vital Force. But when anything gets into the blood that is inimical in its nature, such as the infectious poisons, the Vital Principle, or Life Force, sets up a resistance, as shown by the increased action of the heart and lungs and the consequent excessive heat. It has been a saying among physicians of all schools and in all ages of the world, that we must follow nature's indications, and in no case do anything that would thwart her efforts at removing a disturbing cause, or righting wrong conditions; for this vital principle, or life force, is always striving, under all circumstances of health or disease, to preserve the integrity of the organism. Then let us put this matter into the form of questions and answers.

What makes the heart beat and the lungs respire normally and regularly in health? The LIFE FORCE under hygienic excitants.

What causes the exalted action of the heart and lungs in scarlet fever, measles, small-pox, and yellow fever, sometimes even doubling the healthy action? THE LIFE FORCE under the stimulus of those peculiar poisons.

This is clear, and we draw the inevitable

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conclusion that the extra action of the heart and lungs is nature's way of getting clear of the offending poison, and that the use of any medicine or means that would have a tendency to directly lessen that action, would be simply fighting nature. In the treatment of fever, then, of whatever name or form, we are not to interfere with the exalted vital action, for that is nature's method of cure.

But what about this abnormal heat, the other half of the fever? Shall we do anything with it? Aye, most assuredly; just about all we have to do to cure fever of any name, is to regulate and equalize the *heat* of the body, and keep it at the normal standard.

Does Nature give any indication as to the proper remedy for excessive heat? Yes, in the strongest language possible; for every sentient being, from the lowest worm up to man, seeks the COOL WATER when overheated.

Does cool water fill this indication of nature? Perfectly, to the full satisfaction both of animal and man, and it gives them delight to drink it and to bathe in it.

While this excessive heat, then, is the result of that exalted vital action necessary to expel morbific matters, and, therefore, is in harmony with nature's processes of cure, yet it is provided for by the instinctive desire in all sentient beings for cool water, *making water nature's remedy for fever.* This is fair reasoning, and ought to be conclusive; but we shall see it in a clearer light when we come to consider *why* excessive bodily heat is dangerous to life, especially when there is a seed poison, or death-leaven, in the blood. As we have seen, the first condition of life and health is that the blood shall be 98° in the axilla, or under the tongue. Under this temperature all the impurities are cast out through the depurating organs without the slightest disturbance of the physiological functions.

When, however, the heat of the blood is increased by a few degrees, these impurities are converted into poison of the same character as that which causes the disturbance, and so it goes on, *more poison, more heat, more heat, more poison,* until the whole blood, and even the tissues, become a seething mass of corruption, often before the last spark of organic life has fled. This theory of the conversion of impurities in the blood into poison of the same character as that causing the disturbance, by excessive vital heat, I formed many years ago while noticing the remarkable improvement of a desperate and given-up case of typhoid fever under the thorough application of cool water; and from that day to this I have treated all fevers on the principle of keeping the vital heat at the normal standard so as to prevent such conversion of impurities.

Under this theory of fever, based on physiological facts and the cumulative experience of all sentient beings in the power of cool water to allay excessive vital heat, I have for the last quarter of a century treated, with perfect success, every form and type of fever known in the United States, except the single form caused by variola, or small-pox poison; and that exception is because I have never had the opportunity. But I make this statement, without the slightest fear of practical contradiction, that if the temperature of the body be kept at the normal standard and equalized, with water, from the first appearance of excessive heat, there would not be enough conversion of impurities into the seed poison to cause sufficient determination to the skin to form pustules; and the second stage of the disease would be entirely avoided; and as no infection could result, the malady would eventually disappear, and all fears of an epidemic cease.

By the fall of 1873, I had become so absolutely certain of the correctness of these views of fever, that, though I lived in a northern climate, and had never seen a case of it, I went to Memphis, Tenn., to treat yellow fever in that fearful epidemic. I found the disease to be easily cured when taken at the commencement, and that no single case that I treated—and they were many during the six weeks of my stay—showed the slightest yellowness of the skin, or other secondary symptoms common under the heating treatment; the poison, having been all expelled during the three or four days of the exalted vital action under the cooling and

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equalizing processes. My cooling treatment was directed almost entirely to the trunk from the hips to the arm-pits. This was done by folding a common bed-sheet into six thicknesses, wetting it in cool water and applying it so as to keep the skin of the trunk cool to a healthy hand, or the heat under the tongue at 98° by a thermometer. This involves considerable labor for the nurse and no little annoyance to the patient; but I never thought of anything better until last year in my practice at Salem, Oregon, during an epidemic of typhoid fever. The plan is to construct a cot bedstead with two bottoms—the upper one of canvas, on which the patient lies, and through which the water used will readily percolate, and a second bottom of rubber cloth, placed just below the upper, and sloping toward the foot so as to convey the drip from above into a tub or bucket placed to catch it. This enables the attendant to use water at any temperature desired without moving the patient; dripping the cool water from the hips to the arm-pits through the folded wet sheets. Care must be taken that the extremities are kept warm while the excessive heat of the blood is reduced to the normal standard by cool applications to the trunk.

When I think of the melancholy fact, as stated by one of the most eminent physicians of modern times, that nine-tenths of the human family die of fever in one form or another, and feel the conviction, the absolute certainty, that ninety-nine in every one hundred could be cured by prompt and efficient water-treatment, I am oppressed with a sorrow beyond expression. It is not like that sorrow we feel on account of the inevitable, but that keen regret for the occurrence of what might so much better be avoided. How fearfully inefficient have been the popular school of practice in its treatment of epidemics. During the yellow fever at Memphis in 1873, seven of the most noted physicians laid down their lives a foolish sacrifice to the death-engendering heating treatment, which cost over two thousand lives and millions of money. I say their treatment cost all this, because I *know* that the cooling treatment, as I have given it here, is an absolutely sure remedy for yellow fever, as well as every other form or type of fever known to man.

G. W. KIBBIE, M.D.

PREACHING vs. PRACTICE.

THE following good sketch upon an old, but ever fresh subject, comes from the *New Jersey Republican*. The neatness of the manner in which its many telling points are brought out and applied, must elicit the approval of the candid reader, whether he be a tobacco-consumer or not:

"Mother, how much tobacco does it take to make a sermon?"

"What do you mean, my son?"

"Why, I mean how much tobacco does father chew, and how many cigars does he smoke, while he is making a sermon?"

"Well, the tobacco and cigars don't make the sermons, do they?"

"I don't know but they do—they help along, at any rate; for I heard father tell Mr. Morris, the minister who preached for him last Sunday, that 'he could never write well without a good cigar.' So I thought maybe the tobacco makes the sermons, or the best part of them."

"My son, I am shocked to hear you talk so!"

"Well, mother, I was only telling what father said, and it made me think. He said a prime cigar was a great solace (whatever that is); and he said, besides, it drove away the blues—put him into a happy frame of mind, and simulated or stimulated his brain, so he could work better. I suppose stimulate means to make one think easier; and I've been thinking, mother, if I had something to stimulate *my* brain, I could study better; and the next time I have one of those knotty questions in arithmetic to work out, I will get a cigar, and see if it won't help me along. You know you often tell me if I follow my father's example, I will not go very far astray; and now I would

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like a few cigars, to make my brain work well, so that I can stand at the head of my class."

"I hope I shall never see my son with a cigar in his mouth; it would be his first step to ruin!"

"You don't think *father* is ruined, do you? and he has taken a good many steps since he has taken the first cigar?"

"I think, my son, your father would be better without cigars, or tobacco in any shape; but he formed the habit when he was young, and now it is hard to break it off."

"But father says 'we are to blame for forming bad habits, and it is a sin to continue in them.' I heard him say that in the pulpit, not long ago. There is old Tom Jenkins, who gets tight every day. I suppose he would find it rather hard to leave off drinking whiskey. But father says 'it is no excuse for a man, when he gets drunk, to say he is in the habit of getting drunk.' He says it only needs resolution and moral courage to break off bad habits."

"But, my son, smoking tobacco is not quite drinking whiskey and getting drunk."

"No, I know that, mother; but I was going on to say that, if smoking was a bad habit, father would have given it up long ago. But I don't believe smoking does any harm; and it does some folks a great deal of good. You know how nervous and fidgety father gets when he has to go a day without any cigars; and, besides, he could not write his sermons without them. I am sure, if he could write as well and do as much good without using tobacco, he would not spend so much for it. When I want to buy a little candy, or a bit of spruce-gum, father tells me I had better practice the grace of self-denial, and save my money for the missionary-box. Besides, he says such stuff is not good for me; it will spoil my teeth and ruin my health. Now I am quite certain that father would not spend so much money—more than I ever spent in my whole life, for candy, gum, clothes, and everything else—if he did not believe tobacco was a real benefit to himself and to others. Why, mother, do you know anything about the price of cigars in these times? Cousin Edward Wilkins, who smokes a great many, says you can't get a decent cigar for less than fifteen cents; and the best cost forty and fifty cents apiece. I heard Deacon Tomkins say his cigars cost him six hundred dollars a year; for he uses nothing but the very best, and they are all imported. He told father so the other day, when they were smoking in the study after dinner, and I was trying to get my arithmetic lesson. Now, mother, do you think my father and the deacon, and a whole host of ministers and elders, and temperance lecturers, and lots of good Christian people spend so much money to keep themselves in bad habits? Why, just the sum that Deacon Tompkins alone spends for cigars, would support a missionary in the West for a whole year, and would be a better salary than many Western missionaries now get. Really, mother, I can't believe that using tobacco is wrong, as long as so many good Christians use it. I don't care so much about chewing. I would rather have some nice clean spruce-gum, like they have down in Dickson's store; I would like to smoke as my father does; and please, mother, give me a little money to get some cigars."

"My son, you may talk the matter over to your father. Ask him if he thinks it will improve your habits and your manners to learn to smoke; if he approves, you may ask him for a cigar."

HOW THE POPE LIVES.—In Pope Pius IX., now in his eighty-fifth year, we have an example of what simple dietetic habits do for a man in the way of giving him health and longevity. A *Tribune* correspondent says, in the course of a description of the daily life of that "Head of the Church":

"He rises, summer and winter, at half-past five, shaves himself, dresses without help, and spends half an hour in prayer at a little private chapel, by way of preparation for Mass. He never omits saying Mass unless he is sick. In that case a chaplain says it for him and he receives communion. He hears a second Mass after finishing his own, and then attends to business. About nine he takes a bowl of bouillon (broth) or a

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cup of coffee. The rest of the morning is occupied with audiences and consultations with the cardinals, heads of different ecclesiastical bureaus, and other officials having affairs to transact with him. These dispatched, he takes a little exercise in the garden. He dines alone at two o'clock on soup, a bit of *bouilli*, a single dish of meat with one vegetable, and fruit. He follows a universal Italian custom in mingling a little wine with the water that he drinks at dinner. It is a common white wine which he buys from day to day, for he keeps no cellar. The delicacies which are frequently sent to him all find their way to the hospitals. Dinner is followed by a siesta of fifteen minutes, after which he reads his breviary, says the rosary, and walks again, either in the garden or the galleries of the Vatican.

* * * * * *

"Supper consists of soup, two boiled potatoes, and fruit; and at ten, after a final visit to the chapel, the Pope retires to his chamber. His bedroom is a modest apartment, furnished with Spartan simplicity. The stone floor has no carpet; the little iron bed, with hard mattress, has no curtains; and there is no fire, even in the coldest weather. He has but one other room, a little cabinet or working-office, with low ceiling and plain papered walls, furnished with nothing but a table, two chairs, a couch, and a bookcase."

A PRESCRIPTION FOR RHEUMATISM.

ANXIOUS ever to place before our readers every item of counsel which may be of service as a remedy or preventive of the numerous "ills which flesh," etc., we have cut the following from a number of *Hall's Journal of Health*, published awhile since, only slightly modifying the phraseology. The reader is advised to try all the remedies specified, and such faithful performance will not fail of a certain result.

"Sleep with your head toward the north. Wear a chest protector. Take nitrate of potash; nitrate sodium; nux vomica. Sleep with a big dog. Use magnetism; galvanism; bromide of ammonium; iodide of ammonium. Put on mustard plasters; Spanish fly plasters; bromide of potassium; iodide of potassium; lemon juice; sage tea. Wear sulphur in your shoes. Carry a piece of sulphur in your vest pocket. Try hard rubbing; oleate of mercury; common soda; capsicum; Radway's Ready Relief. Wear silk; white flannel; red flannel; buckskin. Take gin and hemlock; Reynold's Specific. Make a necklace of the knots produced by the sting of an insect on Golden Rod, and wear it next the skin. Exercise and keep it off. Keep as quiet as possible. Take colchicum; morphine; Angel's rheumatic gum; carbolic acid; soft soap bandaged with flannel will do. Do not eat meat; do not eat eggs or potatoes. Eat anything you please. Do not smoke at all; smoke as much as you like. Take camphor. Drink nothing but beer. Do not drink anything but whiskey. Drink no ardent spirits. Keep in the house. Take a ride out whenever you can. Carry a piece of alum in your pocket. Take Turkish baths. Avoid the Turkish bath. De Soto spring water is great. So is acetate of potash, and burdock seed. Bathe in hot water with pearlash in it. Bathe in cold water frequently. Do not bathe at all until you are nearly well. Dose catnip tea. Sleep next to flannel. Go to Arkansas Hot Springs. Go to Doolittle Springs, Richfield Springs, Sharon Springs, Hot Sulphur Springs—to Saratoga, to Florida, to Bermuda, to the Sandwich Islands, to California, to the south of France, to Mexico, to the Azores, to South America. Wear a horse-chestnut in your left-hand breeches pocket. Wear a potato in the other. Take Constitution Water. Wrap joints with cotton, and cover with oiled silk. Get out on the prairies. High land is best for rheumatism. So is Balm of Life and magnetic salve. Rub with kerosene; mustang liniment. Put on hop poultice. Apply hop mashes. Put mustard poultice over the heart. Drink Friedrichshall bitter water. Put on slippery elm poultice. Electric oil. If all these don't *cure*, try something else."

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BRAWN IN THE PULPIT.

IN speaking of the relative influence of clergymen, Dr. Holland says: "The two great men of the Brooklyn pulpit are splendid men physically, and they never could have been the powers they are had they been otherwise. Dr. Chapin and Robert Collyer, though fine and strong in intellectual fibre, are not so exceptionally remarkable in that particular as to account for their long, strong hold upon the public mind. The two Boston preachers who draw the largest crowds, Mr. Phillips Brooks and Mr. Murray, are men of entirely exceptional physique—hard to be matched anywhere in the world for size and strength. It is an inspiration to look at them. Their presence is magnetic. They exercise a charm which can only come from complete manhood—the equipoise of thought and intent with voice and might. If we turn to our own city, and see where the crowds are, we shall find them at Dr. Hall's and Dr. Taylor's. Mr. Hepworth's church, too, is usually a crowded one. It is no dishonor to these men to say that the people do not flock to them because they preach the best sermons to be heard in New York. There are a dozen pulpits furnished with as good brains as these. The simple truth is, that if they were called upon to preach with a slender physique and a weak voice, their crowds would leave them. They are large, strong, healthy men. America does not produce enough of these, and so we were obliged to import some of them. The Brick Church has called a pastor from London, and he is one of the same kind—strong enough not only to do an immense amount of pastoral work, but to preach without fatigue, perform the duties of a professorship, take charge of school matters in his own district, and carry through all the side work that comes to a man in his position."

THE POTATO.

BY JULIA COLMAN.

A Native of the New World—History—Food-Value—Wholesomeness—Accompaniments—Poisonous Elements—Culture—Varieties—Harvesting—Cooking.

RECIPES. — Potatoes — Boiled, Steamed, Mashed, "Snow," Self-Steamed, Baked.

IN vain we search through classic lore for legends of this homely root. Achilles did not wash potatoes. Apicius did not make false fish out of them. It is more than doubtful whether with their depraved tastes for high seasoning, those gourmands of old would have cared much for the potato *au naturel*. But if they tolerated it long enough to learn its capacity for taking on foreign flavors, it probably would have become a great favorite as the vehicle of innumerable seasonings. Escaping, however, from such unworthy treatment, and coming down to us untainted by association with the gods of ancient mythology, it has a history more in accordance with the spirit of modern progress—the history of sturdy merit and honest worth.

The potato is

A NATIVE OF THE NEW WORLD.

It was found in both North and South America; and, to this day, wild potatoes grow on the mountains of Peru and Chili, attaining the size of an inch in diameter. Early in the sixteenth century they were taken to Spain and England. The sweet potato soon became quite a favorite in the former country, and was known in England as the Spanish *batatas;* but it excited no special interest. When Raleigh came home from his unfortunate colonial enterprise in Virginia in 1586, he had some potatoes planted in his garden in Youghal, County Cork, Ireland. It is probable that he planted the seed from the potato-balls; certain it is that he had the potato-balls that he raised prepared for the table, and he did not find them at all like the potatoes that he remembered eating in Virginia. In his annoyance he ordered the gardener to pull

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them and burn them. By this means some of the tubers were roasted, and Raleigh found in them his Virginia potatoes.

This hint was enough to secure the cultivation of the plant for its tubers, but not enough to secure proper cooking. It was seasoned with sugar and used as a conserve, and, of course, no one liked it. We may smile at this as an absurdity—wonder why they did not try some other method of cookery; but we are not in a position to say much about it, for we have not long since made a mistake quite as absurd in seasoning the tomato with salt and pepper, instead of treating it like other fruits with sugar.

With all the rest we must remember that the people of those times had rather a surfeit of new things, and so many extravagant stories were told of the products of the newly-discovered countries—so many things were introduced which were not adapted to the soil and the climate of the places where they were tried, to say nothing of a general distrust of the tastes of these newly-discovered barbarians, that we need not wonder at any failures to discover at once what was valuable and desirable. As a specimen of the things upon which they were called to decide, we may mention tobacco, which was brought to the attention of the public by this very Raleigh; and it must be acknowledged that its taste and properties were not calculated to create much confidence in anything else that he might offer.

HISTORY.

For a long time the potato was scorned and undervalued. Gerard's "Herbal," ten years later, speaks of it as a rarity not fit for common food. In 1663, it is mentioned among the articles provided for the household of James I., and as costing two shillings a pound, when shillings were worth much more than they are now. In 1663, Mr. Buckland drew the attention of the Royal Society to the value of the tuber as an article of food, and recommended its cultivation as a safeguard against famine; little suspecting that it would become an indirect means of famine. In 1687, a whole century after its introduction, a Mr. Woolridge describes the potato as having been planted in various places to good advantage, but adds, "I do not hear that it has yet been assayed whether they may not be propagated in great quantities for the use of swine and other cattle." The "Gardener's Kalendar," for 1708, states that the root is very near the nature of the Jerusalem artichoke, although not so good and wholesome; while ten years later, a noted horticultural authority of those times considers it "of less note than horse-radish, radish, scorzonera, beets, and skirret"—some of which are entirely unknown to the majority of the present population—while the potato is, at least, half of the time the only "vegetable" on the tables of the "well-to-do." A late British writer complains that if a person at dinner do not happen to care for the joint, or has already eaten enough for the day of that kind of food, he has nothing to fall back upon but potatoes. Quite a change since 1720, when Bradley did not think them worthy of notice on their own intrinsic merits; but as they were "not without admirers," he would not pass them by in silence.

The descendants of the English in our own country, the very native place of the plant, shared in this indifference. In New England, as late as the commencement of the present century, potatoes were considered food fit only for the animals and very poor people. The children, however, appreciated them, and used to roast and eat them between meals, very much as they do chestnuts now. I remember hearing the story that when my own father was in his cradle, an older brother and sister had just drawn out of the ashes some potatoes that they had been roasting on the hearth in their childish play, when visitors were announced, and they tossed the dainties into the cradle and covered them up; the youngsters being ashamed to be caught eating such plebian things. Then, of course, the baby remonstrated against the scalding, and the offending tubers were brought to light far more conspicuously than if they had remained in the chimney corner.

FOOD-VALUE.

Slowly, but surely, and equally with its popularity in the estimation of the public, has risen its value as an article of food

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Now all the leading writers on food-topics, or nearly all of them, place the potato at the head of all the so-called vegetables, and next to the cereals in nutritious value. The amount of its nutrition is usually rated at about twenty-five per cent., the remainder being mostly water. Of this solid matter, the greater part is starch, the proportion of which varies with the season. In the winter it ranges as high as seventeen or eighteen per cent.; while, in the summer, it runs as low as ten per cent. In this fact, we have an explanation of the difference in taste and nutrition between old and new potatoes. The nitrogenous matter seldom ranges higher than two per cent., and the sugar, three; while the fat is usually less than one. There is a still smaller proportion of albuminous matter, and a minute quantity of chloride of potassium and asparagin. Besides these, there is a larger proportion of acids—citric and malic—than is usually noticed in speaking of the constituents of the tuber, and this partly accounts for the fact that the potato is more than most other vegetables considered a specific for the scurvy. It also makes it a partial substitute for fruits in their unavoidable absence. If, therefore, we find at a table where the furnishing is beyond our control, a supply of potatoes and no fruit, it is well to eat largely of the potatoes.

WHOLESOMENESS.

There are very few articles of food so perfect in themselves that any one of them can be considered so good as several taken together—one supplying the constituents lacking in another. Next to the grains, we consider that the potato comes the nearest to answering this requisition. It is not so perfect as wheat; it does not contain all the fourteen elements said to exist in the human body. Oatmeal is more complete than potato, but the potato comes much nearer to the grains in composition than any other of the so-called "vegetables." Though it has also a larger proportion of water than any of the grains in their natural condition, still not more than they have after passing through the usual culinary processes by which they are fitted for the table.

Experiments have been tried by feeding prisoners on potatoes exclusively, and they liked the diet better than they did that of any other one thing, and throve upon it. In the voluntary diets of different peoples, we have no other two things tried so exclusively and on so large a scale as oatmeal and potatoes; and, while we are obliged to confess that the indications are in favor of the former, we must remind the reader that in neither case is the diet so exclusive as usually represented. The potato-eating Irish frequently use oatmeal, and almost always have either milk or buttermilk with their potatoes. The Scotch also commonly use milk with their oatmeal. It certainly requires a much larger capacity to hold and digest sufficient potato than it does of grains or of ordinary mixed diet. Hence, children who eat of them largely are apt to become "pot-bellied," and they say the same of the Irish; but we confess that we have never noticed it among those of that nationality who have come under our notice, though we have not seen them in their native potato-patch. Three and one-half pounds at each of the three meals per day is the average allowance where potatoes and milk form the diet.

ACCOMPANIMENTS.

While this is much better than most of the mixed diets of civilized life, we believe it can be greatly improved by judicious mixing with other articles. Nor would we choose flesh-meat and fat as the best accompaniments. True, there is no fat in the potato, but there is starch, which, like fat, contains carbon; and that, too, in a much better form for assimilation. For it must be remembered that even those physiologists who favor the use of fat have not yet told us whether it is digested and assimilated, and, if so, how it is done—and there are good reasons for supposing that it is not done. If meat is to be eaten, we think potato one of the very best things to go with it; but peas and beans are still better accompaniments for the potato. They have little carbonaceous matter and much albuminous. They are very nutritious, to offset which the potato furnishes the desired bulk. They also harmonize very finely to the taste; and, if the beans are rather moist

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and have been cooked without changing the water, they off-set the dryness of the potato completely. A little fruit and some wheat bread will make this one of the most satisfactory meals a person can eat, provided his digestive organs are in good condition, and he does not over-eat, especially of the beans.

With regard to the medical properties of the potato—so much vaunted in the case of scurvy—it is somewhat instructive to observe that it is stipulated that they must be eaten *without salt;* and if by further investigation it should prove that any good, wholesome food, guiltless of salt, prevents or cures the scurvy, perhaps people might begin to suspect that scurvy is a disease resulting from the use of too much salt, and then the whole matter would begin to assume a different aspect. But then we frequently hear it said that the potato is really

POISONOUS.

We know that it belongs to a suspicious family—the *Solanacea*—to which also belong Digitalis, Tobacco, and some other poisonous plants. We suppose, too, it must be conceded that the tops are not wholesome food, but we do not understand that this proves anything against the tuber when properly grown and preserved. There are other instances of poisonous plants, the starch of which is used for food—notably, the *Manihot*, which yields the tapioca. There is reason to suppose also that the skin of the potato contains an acrid juice, since the water in which unpeeled potatoes have been cooked has an acrid, disagreeable flavor. But, if so, the heat drives it off; for the skins of baked potatoes are eaten without injury to health, and none even of the disagreeable flavor is discovered in them. It is evident that this whole subject has received no close and accurate investigation; for you will see that those who should be scientific writers talk about the water in which potatoes are boiled as being poisonous, as if we cooks were not constantly boiling potatoes in soup and eating water and all; while, in the famous boiled dinner of the Yankee farmer, the potatoes are boiled with meats and other vegetables, none of which appear to take any harm from badness imparted to the water by the potatoes. They never mention that the presence of the skins makes any difference in the quality of the water. But the fact is, that when potatoes are boiled with their skins, the water is acrid and discolored; while, if pared before boiling, the water is starchy and sweet—so much so, that, if sufficiently reduced, it may be mashed with the potatoes, to their evident improvement, as is done in the case of colcannon. The acrid matter, then, is in the skins; but that it is poisonous is very doubtful—though the young shoots, possibly the tops, and certainly the tubers that have turned green by exposure to air and light, seem sufficiently unfit for food to be called poisonous.

CULTURE.

New land is much the best for the production of a good quality of potatoes; next to that pasture land, with the turf newly turned. A dry and light soil is much better than a stiff, clayey, or wet soil, these latter being liable to induce rot. If the soils are moderately rich, no manure will be required. If not, chip-manure, plaster, lime, bone-dust, salt, and ashes are much to be preferred to rich, heating manures, and generally it is found better to enrich the entire surface than to manure in the hill. The potato is a product that is cultivated too much for its quantity, rather than its quality. The manuring that will turn out the largest amount is used, almost regardless of the grossness of the feeding. People do not seem to be able to distinguish in the matter of taste between good, bad, and indifferent potatoes, though the potato rot has taught them a lesson on that subject, and the quality of the potato has since that been much more closely scanned than previously. People find that fresh, coarse, rank manure produces badly-flavored potatoes, besides favoring the tendency to decay. Of all available fertilizers, lime and wood-ashes are probably the most extensively used by the intelligent cultivators, who are willing to take some pains to produce such an article as they prefer to eat at their own table. Further than preventing the rotting of the tubers on his hands, such care would go for nothing in the general market. Pota-

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toes are potatoes, and sometimes they are mealy, and that is about all the information the purchaser requires or cares to gain, excepting the variety of which we will speak hereafter.

The question of planting whole or cut tubers, or eyes, has been much agitated of late; some maintaining that the cutting leads to such a degeneracy of the sort as to produce decay. It seems to us very much like the propagation of fruit by grafting, but the healthfulness of this process has also been questioned of late. Who shall say that agriculture is an unintellectual pursuit, when matters of such nicety and importance are to be decided practically? Some items that we have gleaned by the way from the discussion of these undecided questions, are that eyes and sets produce smaller tubers, as also does the use of too large a proportion of seed. Six or eight bushels to the acre is considered by experts as the best proportion. These should be planted deeply enough to prevent their pushing out of the surface of the ground, and thus becoming injured by exposure to the air. Security on this point requires a familiarity with the habits of the different varieties, some of which push out of the ground more readily than others.

A recent series of observations decided that level culture, without hilling up, is better. This will require deeper planting, but avoid the liability to expose the tubers at the side of the hill. The weeds should be carefully kept down until the blossoms appear, after which the plants should not be disturbed. This quiet is said to favor the setting and growth of the tubers. Again, if the buds or blossoms are cut off, the strength that otherwise would have gone to them, will be thrown into the roots, and increase and improve them.

VARIETIES.

Many of the varieties of the potato have been obtained by simply sowing the seed which matures in the "balls," and planting the little tubers the second season. By the time these are harvested the best can be selected to be further thinned out another year. To make the experiment still more favorable, blossoms of the best sorts may be hybridized, as already described for fruits. Some of our best varieties have been produced in this way.

The difference in the qualities of varieties is very marked, though many people do not yet understand that a good variety may have the same amount of nutrition in a much smaller compass than a poor one. A Mercer, fine-grained and full of starch, often contains as much nutrition as a coarse, watery potato of twice its size. This may be partly determined by the specific gravity, the heavier a potato is for its size, the larger its proportion of starch and of nutriment. This specific gravity may also be tested by putting the different specimens in a strong solution of salt and water, when some of them will be found so light that they will almost swim on the surface. An appreciation of this difference we can see to some extent in the different prices at which each variety is quoted in the market.

HARVESTING.

Potatoes are not really fit to eat until they are ripe. They contain very little nutrition and less taste. They have little starch, and, consequently, they are waxy and difficult of digestion. The period of ripeness may be known by the decay of the tops. As soon as possible after this happens they should be dug. Dry soil and dry weather should be selected for the occasion, and they should be removed immediately to a dark place, where a draft of air will dry them rapidly, so that in the course of a few hours they may be placed in the barrels in which they are to remain. A little heating and sweating will occur within a few days, and then they should be closely covered from light and air. The exposure of a single day to them in the field after digging, is often sufficient to ruin their best qualities. We advise no one to purchase at the groceries where so little pains is taken to shield them from such exposure, or, if you must go there, insist upon their being brought from the cellar, where they have had less exposure.

COOKING.

The great secret of cooking potatoes well is to have a good heat, and stop the process at the right time. The potato is peculiar

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in this respect. Grains, mushes, breads, fruits, and vegetables of almost all other kinds, may cook a few minutes more or less without being utterly ruined; but treat the potato in this way, and you might as well leave it off the list, for serving it will only proclaim your failure, and become a source of aggravation to those who try to eat it. The exact result can be better secured by boiling or steaming than by any other method, because the heat is more uniform. It stands at 212°, and can not vary much from this so long as the boiling continues. Some potatoes require more time than others; notably new potatoes require less time than old, say about twenty minutes, while old require twenty-five, thirty, or thirty-five, according to the age, size, etc. The best way is for each cook to time those she has to use, and know just when to test them, and then take them up as soon as they are done.

In baking, they require more time, and will vary much more in the time required, inasmuch as the heat of the oven is much more variable than that of boiling water, and there is no method of ascertaining it exactly. A baked potato is worse about spoiling by standing after it is done, than a boiled potato, besides being entirely useless for warming over.

They are more mealy when boiled in just about water enough to cover them, also better if not boiled in very large quantities. In steaming, the quantity of water is of less importance, only it will be necessary to boil very fast, as this makes more steam, and, therefore, secures more heat.

If these precautions are observed there will be very little difference in either taste or wholesomeness between those which are steamed or boiled. Potatoes are better to be served whole, either with or without the skins. There is no other way in which you get the flavor of a potato so perfectly as to boil or steam it in the skin, peel it, and eat it from the hand, as you would an apple, with no accompaniment whatever, excepting, perhaps, a little stewed fruit; the next best thing is to break it into mouthfuls on the plate with a fork. If mashed, so many of the starch-grains at once take up the moisture of the mouth, as to create a disagreeable dryness, which seems to require butter, gravy, or some artificial moisture; but even when these are added, they do not make it so palatable as when served whole in the manner just described.

We have the same objection to baked potatoes, which to be good at all must turn out mealy. The only compensation is in eating the skins, which, when well baked, are a pleasant and wholesome addition, though requiring careful mastication.

Fried potatoes are simply indigestible and abominable. In the most careful cooking they take up too much grease for health, for if the grease must be used, it is much less hurtful if not cooked in.

We have much more to say about this important esculent that we must defer till another article, which will also include the treatment of the sweet potato.

RECIPES.

BOILED POTATOES.—Wash the tubers carefully, using a brush, if necessary, to clean them; cut away every imperfection, and if there are none, have at least two cuts on each tuber, on opposite sides. Some kinds are best put to cook in hot water, and some in cold. Try each kind for yourself, and proceed accordingly. Let there be just water enough to cover them; cover the kettle closely and boil without intermission until done. Note the time they require to cook. Probe with a fork, and take them off a minute before, rather than a minute after, the right time, and make it up by letting them stand longer in the kettle to dry. Pour off the water completely and return them to the fire to dry out. Serve in a hot vegetable dish, and cover with a thinly-woven towel, folded in several thicknesses, uncovering only as you serve them out.

STEAMED POTATOES.—Prepare them precisely as for boiling. If they are to be pared first, let the skins be as thin as possible, for just under the skin lies the best part. A closely-covered boiler, with an inside perforated boiler let down into it, is better than a boiler with a steamer set on the top of it, because more of the steam is likely to be preserved and utilized, and the nearer they are to the water the hotter they will be likely to be, though the latter should not reach the potatoes. When done, dry them off and serve them as recommended above.

MASHED POTATOES.—The skins may be removed from these either before or after boiling

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or steaming, though the peeling afterward leaves more nutrition and a better taste. If the quantity to be treated is small, let one mash up with a fork quickly in a hot dish, while another peels; if large, let both dish and pestle be warmed, placing the dish in the oven and throwing the potatoes into it as fast as they are peeled. Then let them be very thoroughly mashed. The longer they are worked, the lighter and more creamy they will be. For moisture a small proportion of green-corn cream or oatmeal milk may be added, if desired.

POTATO SNOW.—Rub hot mashed potatoes quickly through a rather coarse sieve, while another constantly strikes the sieve, so as to break into short pieces. This is a fancy dish for delicate persons. Great pains should be taken to have it served warm.

SELF-STEAMED POTATOES.—Have an iron kettle closely covered; fill it about two-thirds full of potatoes, washed and cut as in the first recipe above. Set it over a moderate fire, and let them cook entirely without water, a few minutes longer than for boiling or steaming with water. Test them in the same way, and serve in the same way when done. This is not at all difficult to do; the moisture from the tuber, as it is forced out by the heat, falling down and creating steam enough to cook them thoroughly. It is one of the most delicious and satisfactory methods of cooking the potato.

BAKED POTATOES.—Understand your oven, and do not undertake to bake potatoes without you are sure of a good heat. It is not necessary to cut them in dressing, any further than to remove defective places. Be sure, however, to have them scrupulously clean, so that the skins may be eaten. Rinse freely, drain, and place the largest in the hottest place; keep watch of them more closely than in boiling, because you can not so readily judge the heat. Try them by squeezing in a folded napkin, and as soon as you can crush them through, remove them to a hot dish, breaking each one in the napkin, so as to allow the steam to escape. Cover them with a large, clean, folded towel and serve warm.

RECORD OF SCIENTIFIC DISCOVERY.

Comparative Weight of the Brain in Men and Women.—As a contribution to social science, and as a curious illustration of the principles of psychology taught by Gall and Spurzheim, the latest results concerning the relative development of the various centres of nervous activity in men and women, may not be destitute of interest. Professor Jacobi, of Berlin, whose great work on the "Evolution of Society" is in its second volume, has made a most careful and exhaustive investigation on this subject as respects the Germanic races. He finds that the spinal marrow in women is appreciably smaller in transverse section than it is in men, and that the development of the anterior horns of the gray matter is less marked; showing, as concerns the instincto-motor centres, a decided preponderance in favor of the male. This is true of the mammalia, as a class, and indicates an increased capacity on the part of the male to endure muscular tension. The contents of the spinal canal stand for the two sexes in the proportion of 100 in the female to 115 in the male. The frontal lobes of the brain in the male are to those of the female as 113 to 100. In men the ideo-motor centres are to the rest of the brain as 51 to 100; in women, as 45 to 100. The temporo-spheroid lobes are as 114 in men to 109 in women; the vital centres as 107 to 100; the lobes of the cerebellum as 108 to 100; the occipital lobes as 111 to 100. The posterior parietal region preponderates in the female and is to the same region in the male as 105 to 100. The superior parietal region shows an average equality in both sexes. The lumbar section of the spinal marrow is as 105 in the female to 100 in the male. The relative weight of the brain in the two sexes during the forty years of active life, from 20 to 60 years of age, is as follows in grammes:

	Men.	*Women.*
20 to 25 years old,	1394	1235
25 to 30 " "	1414	1267
30 to 40 " "	1404	1272
40 to 50 " "	1379	1234
50 to 60 " "	1365	1234
Average during active life,	1389	1249
Relative proportions,	111	100

Dry as these data seem, they constitute such valuable materials for the comparative psychology of the sexes as enable the man of science to indicate the relative spheres of the two in active life. The distinction of sex commences, indeed, in the very first processes of fœtal development, long previous to any distinct traces of organic structure, in the predominance of the serous over the mucous layer of cells, or of the mucous over the serous; so that a practiced physiologist would be able to state with proximate certainty from the serous predominance in the first that the still rudimentary embryo will produce a male, and from the mucous predominance in the last that a female will be the result. The serous layer is the proper parent of bones, muscles, and motive structure; the mucous of the glandular and mucous structures. The vascular layer, from which the heart and vital organs are developed, arises from the two, the *punctum saliens*, appearing

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simultaneously with the first trace of vascularity, and giving origin to those protoplasmic currents which are the main instruments of the subsequent organic development. In accordance with the superior development in the male of tissues having a serous origin, the development of the red corpuscles of the blood is correspondingly greater, and the male has a larger liver—the organ concerned in the reduction and excretion of such corpuscles. The distinction of sex may thus be pursued into the elementary processes of physiology, showing, in general, that in the vertebrate male there is always a predominance of motor tissues, and in the female a predominance of the tissues concerned in, or related to, sentiment and emotion.

Darwinism in Diseases.—M. Alphonse de Candolle has recently contributed an essay to the medical rubric, which has excited considerable comment among the knot of *savants* forming the Society of Physics and Natural History, at Geneva, Switzerland. It consists in an application of the law of natural selection to diseases. According to M. de Condolle's hypothesis, when a disease has severely attacked that portion of the population not advanced in years, the following generation, descending from persons not disposed to take the disease, will also be in the same condition by an ordinary effect of the hereditary law. There is, therefore, a reason for the diminution of the epidemic; and it is explained by this law, therefore, why the attacks of an epidemic are most severe the first time it appears among a population, and why it afterward becomes rarer and less fatal, which has always been the case with most diseases of this kind. At the end of several generations, however, a population moderately attacked by a disease resembles in condition a population that has never had it, and the result is an increased intensity. Applying these principles to the small-pox, M. de Condolle estimates that at the date when Jenner introduced vaccine, the variolic affection was weakened relative to the age preceding. Vaccine ought, therefore, he thinks, to be more efficacious when it is applied to a similar condition than it was when Jenner applied it. Small-pox having nearly disappeared from Europe for two generations, the new population is less exempted from its attacks, and the date may not be far off when it will manifest all its former epidemic virulence.

A Steam Lamp.—At the recent meeting of the British Association, Mr. R. Lavendar, Kirkcaldy, read a paper descriptive of a lamp specially adapted for collieries, the merits of which was that it gave a great light at a small cost. The lamp, as shown at Kelvin Grove Museum, consists of a glass lantern eighteen inches square, with a funnel twenty-four inches high. Into this is introduced a jet of steam, about one-sixteenth of an inch in diameter, the object of which is to create a partial vacuum in the lantern. The consequence is, that the surrounding air is forced through the burner of the lamp, causing almost complete combustion of the oil. A very brilliant light is thus produced, which is increased partly owing to the products of combustion being continuously removed and a volume of fresh air being introduced. The results obtained from a four-inch wick had been equal to a light of upward of six hundred sperm candles.

The Laws of Taste and Smell.—Dr. Hughlings Jackson, whose name has long been familiar as that of one of the first neurologists of the age, has just published a series of observations as to the relative functions of the olfactory and gustatory nerves. To understand how complex the sensation of taste, as generally spoken of, really is, it must be remembered, that the membranes of the mouth and the surface of the tongue are abundantly supplied with tact-buds, or papillæ of ordinary feeling; so that what is styled taste is always accompanied by a perception of form and consistence, and of heat or cold. Sliminess, for example, is a perception of the tact-buds, not of the taste-buds. Lastly, the distribution of the olfactory nerve is so intimately connected with that of the nerve of gustation that the two usually act in unison. Thus what is generally, though inaccurately, styled taste is a triple sensation, involving the simultaneous impression of nerves of feeling, smell, and taste. It becomes important, therefore, to discriminate, since the fifth pair, the glosso-pharyngial, and the olfactory nerves are all involved in the function of taste, and an impairment of the function in the ordinary acceptation of the term, may imply lesion of either. In point of fact, as a general rule, when patients complain of impairment of the sense of taste, it will be found on experiment that the olfactory nerve is the part especially affected, and that there is really no loss of function in the fifth pair. A very simple experiment will settle this question. Drop a little essence of peppermint on a lump of loaf-sugar, and place it upon the patient's tongue. The tact-buds will respond with a sensation of heat, and the taste-buds will perceive the proper taste of the sugar, if the function of the fifth pair is undisturbed; while, if there is defective olfaction, what is styled the taste of peppermint, will be absent. Conversely, if the latter is present, and it is the sugar that remains unperceived, then the taste-buds have lost their function, and the olfactory nerve is not the seat of the lesion. Camphor in solution, dropped on sugar, is also a good test. The point is, that neither peppermint nor camphor have any proper taste, but are in reality smelled. Blood is said to have a salty taste; but in reality it is not the albuminous constituents of the blood, but several salts, held in solution in them, that are tasted. The remainder of the impression is one of flavor and of consistency, apprehended by the nerves of feeling and the olfactory filaments. And this brings on the distinction in function between the olfactory nerves and the filaments of gustation, as founded in nat-

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ure. It is this: Crystalline bodies, soluble in water, or in the secretion of the salivary glands, are tasted; colloid bodies, oxidizable in air, and susceptible of diffusion, are smelled. Thus sugar, salt, etc., are tasted, and have no effect whatever on the olfactory nerves; while, with colloid compounds, the sensation is due to an aroma that is apprehended by smell. With mixed bodies, colloid but holding crystalline elements in solution, such as animal and vegetable tissues, the so-called sensation of taste is always a mixed one. It would be a mistake to suppose that, because an aromatic body has a sweetish taste, the aroma and the taste are due to the same constituents. Carbolic acid has a sweetish taste, but aroma proceeds from unseparated impurities, and the more refined the acid, the less it impresses the olfactory nerves. The distinction, then, between smellable and tasteable bodies, is purely one of solubility in water or in air; and the sense of taste may be as readily destroyed by loss of function in the salivary glands as by loss of function in the taste-buds themselves. It will be seen, therefore, that to make a correct diagnosis in a case of this kind, involves an exceedingly careful and exact analysis of all the functions represented by the mouth and nose.

AGRICULTURAL HINTS.

[The mind is the man. Farming, in the highest sense, is not simply doing the hard work necessary. This can be done by muscle when directed by brains. The true farmer is he who can plan, direct, and control skillfully.]

As this department is one which should contain the most recent gleanings of wisdom and experience, our readers and friends in the rural districts are invited to send us any items of value to agriculturists in general, and which should have a wide circulation. Due credit will, in every case, be given to the contributor.

Profit in a Good Soil.—A good soil rarely fails, even in a poor season, of returning a paying income for the labor expended on it in the cultivation of any crop adapted to it. The *Prairie Farmer* says on this point: "The idea that the number of acres in crops indicates the farmer's income must be abandoned, and the number of bushels per acre must be looked for instead. There is certainly less profit in ploughing fifty acres, to raise one thousand bushels of grain, than in ploughing but twenty-five to grow the same amount, and trusting to good seasons for fair crops will not be thought of by the improved farmer. A rich and well-cultivated soil will usually make fair returns in what we call bad or unfavorable seasons. What the farmer on a poor soil would call a good season seldom comes."

Bone Fertilizer Home-Made.—A contributor to the *Horticulturist* buys bones of a butcher at a dollar the hundred pounds, and considers them the cheapest fertilizer he can obtain. He transforms them into meal by the following simple process: "I have a large, water-tight hogshead standing out of doors, near the kitchen. In the spring I cover the bottom about six inches deep with dry soil. On this I put a layer of bones, about the same depth, and cover them entirely with unleached ashes. On these another layer of bones, then ashes, and so on till the hogshead is full. I leave it then exposed to sun and rain all summer and winter till the next spring. Then on removing the contents of the hogshead, I find nearly all the bones so soft that they will crumble to powder under a very slight pressure, and they give a nice little pile of most valuable manure, ready for immediate use. Any of the bones not sufficiently subdued I return to the hogshead again, for another twelve months' slumber."

How to Treat a Shying Horse.—Never strike a horse for shying or starting when an unpleasant object presents itself, nor when his fears are excited. A soothing word, a steady rein, and a gradual introduction to the object which excites the animal will soon teach him to confide in his master and become fearless. We have taken a horse at ten years old whose nerves were very excitable, and who had become unmanageable and would run away at the sound of or sight of a locomotive or railroad train, or any object suddenly presented in the road, and after a few weeks' steady and kind handling on the road and in the stable, had him stand and view an approaching railroad train quietly; a horse which no rein or bit would hold when once excited became manageable with a slack rein and a soothing word.

France to her Farmers.—The following is the translation of a notice posted on the walls of the rural schools, and at the entrance of the Government forests in France:

"Department of Agriculture—This notice is placed under the guardianship of the good sense and honesty of the public.

"The hedgehog feeds upon mice and other rodents, on snails and other creatures hurtful to agriculture. Do not injure the hedgehog.

"The toad, the great friend of the farmer, destroys from twenty to thirty insects every hour. Do not kill the toad.

"The mole—He is the destroyer of innumerable insects destructive to plants. Vegetable substances have never been found in

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his stomach; he does far more good than harm. Do not harm the mole.

"The hanneton (a variety of June bug)—The mortal enemy of agriculture; lays from seventy to eighty eggs. Death to the hanneton.

"Birds—Every province in France loses millions annually through the havoc made by insects, and the birds are the only creatures capable of keeping them in check. They are the best friends of the farmer. Children, do not rob the nests of the birds."

Use of Muck.—On light sandy soils, well-rotted muck is often useful in increasing their retentive power, so as to make common manures last longer and produce greater effects than they otherwise would. They improve the mechanical condition of such soils, if they do not add any element of fertility. But mud or muck differs greatly in quality. Some kinds are far better than others. Some may be worth their cost while others are comparatively worthless.—*Mass. Ploughman.*

Five Crops to One Root.—Says the Fresno (Cal.) *Expositor:* "A specimen of oats is on exhibition at the Central California Colony which is a fair illustration of what can be done by irrigation. On one root five distinct crops have been produced this season. The first two crops have ripened and the grain has fallen out, the third crop has matured, the fourth is in the milk, and the fifth is green and thrifty and about one foot in height."

Size of American Farms. — The greatest improvements that have taken place in transportation, which make it possible for the wheat of Iowa and California to compete in the English markets with that raised on the Atlantic seaboard, and which place Iowa in competition with New England, have operated to specialize farming. The large farmer of to-day raises fewer kinds on his farm than did the small farmer of the last century. This specialization allows the use of the higher appliances and the use of capital, as the former could not. The true farms have, doubtless, grown in size on the average. The early settlers of necessity could till but small farms. The tax lists of Long Island for the years between 1675 and 1685 show that in nine English towns the average landholding was about twenty-two acres, and in the five Dutch towns about thirty-seven acres, or for the whole fourteen towns it was twenty-five and one-third acres, and at that time over ninety per cent. of the tax-payers were landowners. The national census of 1870 enumerates 2,660,000 farms, only six and a-half per cent. of which were of less than ten acres, and more than half of the whole number contained over fifty acres. The cash value of the farms, implements, and live stock was placed at upwards of $11,000,000,000, and the total estimated value of all the farm productions at about $2,448,000,000. Of the 12,000,000 persons "engaged in all classes of occupations," 6,000,000 were engaged in agriculture. We have absolutely no statistics of the agriculture of the colonies at the time of the Revolution; therefore, the actual figures of progress can not be given, and we refrain from estimates.—*Professor W. H. Brewer.*

The Victoria Plum.—An English journal thus notices the Victoria plum: "In our market garden, while there is a general failure of the plum crop throughout without exception, the trees of the Victoria are carrying a good crop, which may probably be attributed to the fact that they are planted to a great extent among the larger trees, which afford protection. It is a peculiarity of the Victoria plum that it will mature its crop when growing amid and beneath other trees; and it has further been observed that when there is a scarcity of other sorts of plums, the Victoria always produces a good crop. It is one of the most profitable varieties that can be grown, especially in cottage gardens."

Relation of the Soil to the Atmosphere.—When a soil is ploughed or spaded deep, if there is not an excess of water to fill the pores, the friable ground will absorb large quantities of moisture during cool nights and cloudy days. Experiments have shown that five hundred pounds of good, fertile soil taken from various parts of the world and made perfectly dry, gained nine pounds in weight in the course of an hour by simple absorption from the atmosphere, and this gain varied with different qualities of earth, in proportion as they were more or less productive. In testing with water, one hundred pounds of pure clay, dried, absorbed seventy pounds of water before any came through so as to drop. A similar weight of clay-loam took in fifty pounds; English chalk, forty-five pounds; loamy soil, forty pounds; calcareous sand, twenty-nine pounds, and dry quartz, twenty-five pounds. The experiment illustrates strikingly the degree of tillage or pulverization requisite in each case as compared with the others. A young sapling, planted in earth that had been over-dried, and receiving no other nourishment thereafter than that derived from the air, and an occasional watering, more than quadrupled its weight in a twelvemonth; while the earth in which it grew, having been again dried and weighed, showed a loss of only two pounds—a fact which proves that we are indebted almost solely to the atmosphere even for the solidity of our trees. The same truth on a smaller scale, as well as on the large, is being illustrated every day and all around us, but the principle could be much more effectively utilized in agriculture than it is, and that simply by a more thorough pulverization of the soil. The decomposition of animal and vegetable matter keep constantly filling the air with fertilizing gases, and perfect tillage is the first step necessary to condense these in the pores of the soil.

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REDEMPTION OF THE CRIMINAL.

"IN chemical science one combination of elementary ingredients produces a medicine of sovereign virtue in removing pain; another combination of the same materials, but differing in their relative proportions, brings forth a mortal poison. In human nature, also, one combination of faculties may produce the midnight murderer and thief; another, a Franklin, a Howard, or a Fry, glowing with charity to man."—*George Combe.*

"There are in every nature its particular tendencies or impulses of development, which may be fostered or checked by the conditions of life; and which, therefore, according to their good or evil nature, and the external influences they meet with, may minister to the future weal or woe of the individual—may lead to a stability of character which prevents the mental equilibrium ever being seriously disturbed, or to such an instability of character that the smallest adversity may destroy it forever."—*Henry Maudesley.*

It is only within the last generation that in the treatment of criminals any civilized people has recognized the influences of birth and education as determinative of conduct. Prisons were originally established as a measure of social protection, and besides the mere deprivation of liberty, the offender has been subjected to various methods of physical punishment, the aim being to graduate their severity in accordance with the character of the offense. The idea of considering a malefactor in the light of one whose moral turpitude was due to a defective organization or to pernicious training from childhood, and who therefore needed instruction with reference to the laws of his nature and the principles of moral obligation did not enter the minds of those vested with executive authority, and if it were suggested by some student of human nature, was rejected as the impracticable fancy of excessive benevolence.

John Howard performed a noble work in bringing to the knowledge of Parliament the errors and abuses in the common jails of Great Britain, and his unbounded philanthropy aroused Europe to some appreciation of the propriety of attending to the sanitary condition of the laboring and criminal classes. His efforts aimed at extricating the imprisoned from the cruelty and injustice of unfit wardens and keepers, rather than to introduce a system of training and discipline based upon the truths of physiology and psychology. That admirable woman, Elizabeth Fry, is entitled to much of the credit for instituting the movement having for its object the reformation of prisoners and furnishing them with employment of a useful and educating sort. Down to the present time, however, aside from the association of labor with confinement, very few among the multitude of penal establishments in our land, and in Europe, include an organized system for the intellectual and moral culture of their inmates. The spirit of anger and retaliation has so long dominated public consideration for the violator of law and order, and the custom of ages has so deeply impressed the jailor with the character of a chastiser of the criminal, that it is very difficult for the economist to obtain

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a general recognition of the humane sentiments which lie at the basis of true prison reform. Ere this is accomplished, or simultaneous with the application of rational and benevolent measures, the class of prison officers and attendants maintained in most of our States, must be replaced by men and women of intelligence and culture, alive to the mental needs of the average criminal, and competent to meet those needs with discreet training.

We are not of those who would give to the robust burglar and homicide a pleasant home for a longer or shorter term, supply him with the best of teachers and facilities for his education in those important matters which he neglected or despised in freedom, meantime permitting him to bask in comfort while the mass of society labors and saves to pay the expenses of supporting the institution which he has made necessary. No, we approve not the system which does not include the idea of punishment, but the method of that punishment should be so applied that its effect shall be wholesome.

Corporal punishment, as usually inflicted, in jail or out of jail, has an unhealthy mental influence, because either it is out of harmony with the quality of the offense for which it is administered, or the recipient is not made to understand the relation between it and his commission of wrong, and the natural law of justice which exacts it as a consequence. We can conceive a punishment whose infliction would occasion much physical suffering, yet whose moral—therefore educational—impression would be salutary; and specially so if its correlation with the subject of the crime were closely discerned. The wise mother, when correcting a child for some willful misdeed, seeks to impress upon its mind some comprehension of the true principles of moral conduct, the natural relation of cause and effect: how good conduct secures happy results; how impropriety is followed by consequences usually painful to both mind and body. The wise guardian of criminals will treat them in an analogous manner. Carefully estimating the predominance of this or that propensity, and the deficiency of this or that sentiment, and observing the general temperamental cast, he will provide the means which shall tend toward a correction of the abnormality.

As men are ordinarily constituted, their irregularities of conduct which affect the peace of society arise mainly from the action of mental organs whose functions and correlations have been perverted by improper training and vicious example. Hence we are of opinion that the majority of those upon whom the law places its restraining hand are susceptible to regulating influences, and can be reformed and brought to follow a legitimate and useful career. But we can not expect such good to result from the methods of punishment. Close confinement, the ball and chain, manacles, shower-baths, excessive labor, have no reformatory unction in themselves, but rather serve to discourage or harden the prisoner; they are the insensate instruments of stern discipline, of retaliatory justice, exciting by their infliction, in most instances, a low, vengeful activity of the propensities and intensifying the spirit of malignancy which dominates in criminal character. There is no potency for moral elevation in the mere performance of his part as executor of the law by the prison functionary. Hence the prisoner who has been awakened to a realization of the inhumanity of his career and of its personal destructiveness, and has resolved to make a strong endeavor to atone, in some measure, for the offenses of his past life, owes that awakening to the patient influence and teaching of a keeper or officer whose sense

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of duty comprehended far more than the physical duress of his charge.

The instances of criminal reformation are so numerous that the question of its possibility no longer arises, and as for its practicability the gain to a community of but one man, restored to habits of sobriety and usefulness, whose previous evil course made him hated and feared, is a sufficient demonstration, warranting the application of the best instrumentalities to every case. Considerations of social economy, of social security, as well as of philanthropy, urge the general establishment of a system which shall educate and train the unfortunate toward knowledge and mastership of themselves, and it is only by the thorough introduction and operation of such a system that society will finally empty its prisons.

ONE DUTY OF THE PRESS.

IN a season of financial and business depression, when thousands of the workers—the most valuable class in our population—are without employment, and destitution confronts hundreds of men and women habituated to a condition of physical ease and comfort, it is a manifest duty of those who write what the people read in newspapers and magazines to give expression to their best thoughts on "the ways and means" of securing a better condition—a healthy social prosperity. It is not comforting to read "the cause of our troubles" depicted in slow-marching sentences, with many what-ought-to-have-been-dones distributed here and there through paragraphs of indigo-gloomy criticism. Yet such is the kind of writing which many of our editors seem specially fond of. It is not calculated to mend matters, certainly. Some people are organized in such a way that they find "enjoyment" in reviewing the mistakes and disappointments of their past, and will treat a patient listener to many a rehash of them. Such persons, however, are not classed among those who inspire society with ideas of progress; they are really the clogs upon the wheels of popular enterprise. The past is useful as furnishing lessons of success or failure—data upon which to base our plans for present effort; but dwelling upon its misfortunes, whining out a rueful tale, with every opportunity, ascribing the cause of failure to this one or that one, to this occurrence or that, induces a mental state which ultimately becomes chronic, and the subject of it lapses into a gloomy, listless fossil.

When the "times are hard" people need cheery, kindly reading matter—practical, serious even, but suggestive and encouraging. The eager question of the suffering multitude, "What are we to do?" should be treated with grave consideration and honest reflection; and poor must be the writer who can not say some cheering words, who can not offer some gentle admonition. It is not presumed that every town and city is blessed with a literary genius who can solve the problem of our present difficulties. Neither is it presumed that many brains are equal to the task of setting the machinery of commerce and industry in motion. But it is believed that if all who are in active editorial practice were to write hopefully and encouragingly whenever the business situation was touched upon, they would furnish one powerful lever—perhaps the most powerful—toward a general improvement.

THE LATE HOLOCAUSTS.—The burning of the Brooklyn Theatre, with the destruction of nearly three hundred people, and the more recent catastrophe of the broken railway bridge at Ashtabula, Ohio, with the sacrifice of seventy lives, have aroused pub

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lic feeling to a degree perhaps never experienced in this country heretofore in relation to what is deemed "accidental," in the way of the calamitous. We trust that this feeling will not expend itself in mere sighing and expressions of sympathy for the bereavement and suffering which have fallen upon so many homes and communities, but will take the practical form of making buildings designed as places of public assembly and amusement safe to the visitor; and institute such reform in railroad management that the traveler may have some assurance that the condition of roads, bridges, cars, and the conduct of engineers and conductors are subject to close surveillance.

A terrible accident occurs, valuable lives are lost, families rendered desolate and destitute, and no one found to blame! It is time such ghastly farces were terminated. High time that corporations and money-seekers were made to understand that life, man's most precious interest, was not to be trifled with; that they must take the responsibility of what occurs within the domain of their authority.

HOW THEY DO IT IN VERMONT.—A severe liquor law, which was passed at the late session of the Vermont Legislature, was signed two or three days ago by Governor Fairbanks. It is entitled the "Nuisance Law," and after declaring every liquor shop a nuisance, it provides that the person convicted of keeping such a place shall pay a fine of not less than twenty dollars nor more than two hundred dollars, or be liable to a fine of twenty dollars and imprisonment for not less than one month nor more than three months, at the discretion of the court. The shop is to be closed, and the former proprietor placed under bonds against reopening it for the purpose of selling liquor.

It would require close tactics for any rumseller to navigate his bar in such a way as to avoid direct influences of a pernicious nature. Perhaps it would be impossible for the average vendor of whiskey to do this, while the man of refined taste and practical discrimination would not enter the business. On the whole, we think the Vermonters about right in their view of the subject.

ON AN ECONOMICAL SUBJECT.

SO many banks for savings have failed of late whose managers were found to have used the funds placed in their hands, more for their own personal profit than for the benefit of depositors, that the working classes of America entertain a grave suspicion concerning the safety of trusting their money to such institutions. The fact that the ordinary savings-bank is controlled by capitalists, and the money accumulated by the deposits is generally loaned to owners of property, or invested in stocks and bonds for the benefit of public or private corporations, is becoming understood by the toilers of society, in its relation to the little or no resultant benefit accruing to them, aside from the mere interest, from such a class of uses. Out of such an understanding crops the question, Why should I not have a voice in the application of my money? the interrogator perhaps reasoning thus wise: "I, in company with a thousand or more like-minded, with reference to saving what may be from our daily earnings, furnish the means for the support of yon dapper gentlemen of the desk. It is to their sagacious administration of my money that I owe the profit of the five or six per cent. interest; but the risk of losing my deposit is not assumed in such a way as to make them thoroughly responsible for a mistake or irregularity in its application to use. The risk is practically mine, although I am not permitted to have anything to say concerning the manner of its investment. Furthermore, in order to obtain the requisite gains for the payment of my interest, and of such sums to themselves as they deem the handling of my and others' money worth, they loan to men of substance and presumably well-to-do, for the furtherance of their respective schemes and enterprises, while the mechanic or laborer, like myself with no houses, lands,

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or acceptable security, must forego any chance to lift himself in such a way. The savings-bank, then, is a business scheme of the capitalist mainly for his own benefit, although I am ready to accord him much credit for the economic influence exercised upon the laboring class by its creation.

In England the savings-bank scarcely exists, co-operative or mutual-benefit societies taking their place. In these the accumulated funds are used by the members themselves. These societies have a very numerous membership, particularly in the manufacturing towns, and are variously organized for industrial purposes, the procurement and sale of household necessaries, building and homestead objects; and have contributed greatly toward improving the condition of the workingman. There are numerous mutual-benefit societies in Canada, and most of them are in a very prosperous state. We are told that the building unions hold mortgages on real estate thervalued at nearly $43,000,000, and "the influence they have gained thereby is so considerable as to inspire nervous people with no little alarm." In Ontario the amount of the loans they have made is said to be $15,680,000, and in Quebec $2,729,000. The total outstanding loans made in these two provinces alone amount to $18,360,714, secured by real estate property worth $42,962,000. The paid-up stock is $11,434,267, and the deposits have been $5,020,706.

We are always desirous of seeing the interests of working people furthered, as we know that they constitute the back-bone of the community, and its substantial prosperity is gauged by their good or ill condition. And we think that one decided step in advance for the American industrial classes, would be the formation of co-operative societies similar to those of England and Canada. Such associations bring the people together for the discussion of their mutual interests, and lead to the institution of projects for their moral and intellectual improvement.

MILK AS AN ABSORBENT OF IMPURITY —"Attention has been called in the daily papers to a practice prevalent in some parts of the country, which appears to illustrate the power possessed by milk of absorbing atmospheric impurities. It is that of placing a saucer of new milk in a larder to preserve meat or game from taint. It is said that not only does it answer that purpose, but that the milk, after a few hours, becomes so bad that no animal will touch it."—*London Lancet.*

Many people keep milk in wide basins, thus exposing a large surface to the air. This is the practice with farmers who wish to obtain a good proportion of cream from the milk. But in too many cases the "milk-room" is used as a general pantry, and food of all sorts is placed in it, some remaining until it is too stale to be eaten. But the daily supply of fresh milk, according to the paragraph from the *Lancet*, tends to disinfect the atmosphere of the milk-room and to preserve food from spoiling at the cost of purity to the milk. We have known people of delicate taste to complain of the flavor and odor of milk which was presumably fresh, and which they were certain had been kept in a cool place. The property of milk to absorb foulness offers one explanation of the trouble, and a knowledge of it should be disseminated among all producers and users of milk.

THERE is an excellent cement which ought to be used freely by every one. This cement is good for family jars and social cuts. It heals wounds and leaves no scars; mends life; binds enemies together; mends damaged reputations; and is splendid for hurt feelings. This universal cement is love. Love is a thing to be cultivated, as you would a solitary stock of wheat, supposing that there was not another grain of wheat in the world.

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Our Mentorial Bureau.

[In this Department will be noticed such matters as are of interest to correspondents and to the general reader. Contributions for "What They Say" should be brief, pointed, and creamy, to secure publication.]

To Our Correspondents.

THE PRESSURE OF OUR BUSINESS IS SUCH *that we cannot undertake to return unavailable contributions unless the necessary postage is provided by the writers. In all cases, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage—stamps being preferred. Anonymous letters will not be considered.*

QUESTIONS OF "GENERAL INTEREST" ONLY *will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.*

IF AN INQUIRY FAIL TO RECEIVE ATTENTION *within two months, the correspondent should repeat it; if not then published, the inquirer may conclude that an answer is withheld, for good reasons, by the editor.*

LEAD POISON.—E. J. Y.—As so much time has elapsed since you swallowed the putty, the poison has become distributed throughout your system, and nature in her efforts to eject it has occasioned you the inconvenience you complain of. By making use of simple food and water freely—no flesh of any kind—and the milder sorts of fruit, and occasionally a wet sheet pack, you will assist nature in eliminating the remnants of the poison. It may be some time before you will have entirely recovered from the effects of it. Of course, while you were taking the Epsom-salts you were experiencing their effects, and their greater potency even eclipsed the effects of the lead. You have now to combat the sequel of the effects of the salts and of the lead in your hygienic treatment.

THIN BLOOD.—J. W. L.—Your friend is troubled with what appears to be anæmia, a condition of debility which may warrant serious apprehensions. Her duty is to make use of all the means possible for restoration of strength. Her digestion is very feeble, so that it would be a matter of close estimation to adapt food to her need; but she should eat what she may without distress, that which contains the largest amount of nutrition. Her stomach is very easily overtaxed, and she can not eat much at one time. Magnetic treatment or movements may prove serviceable, inducing an improvement in the circulation and strengthening the muscles. The pains under the shoulder-blades are probably due to weakened lungs or neuralgia. Of course it would be impossible to prescribe for her minutely without personal examination.

SPIRIT OF MAN.—J. P. K.—"Is not the God-given Spirit breathed into every mortal frame essentially the same? Why the diversity which springs from hereditary influence, both mental and physical?"

Answer. It is impossible for us to answer your question. The counsels of the Almighty are hidden from us. We can only determine with regard to the phenomena of mental and physical life, tracing their relation as well as we can to nervous centers.

MOON'S REVOLUTION—D. A. H.—The moon, as is the case with all satellites in our system, makes one revolution on her axis while passing around the earth. Why she exhibits the same hemisphere, is due, of course, to the earth's attraction. There is, however, a slight movement which brings a little more than her hemisphere into view; her axis of rotation is inclined one degree to the plane of her orbit, and maintaining the same general direction as she moves around the earth, she appears to nod backward and forward in a track of about 13° in the course of every revolution, exposing to view the regions just beyond her north and south poles alternately. According to a recent writer, this is not all; there is some oscillation which enables the observer on the earth to look over her edge, now on the eastern, now on the western side. The oscillation is not great, but sufficient to indicate that her movements are not absolutely equal. The several exposures of more than half her surface are called the moon's "librations."

PHYSICIAN AND SURGEON.—S. S.—To be a good physician one must possess strong perceptive faculties; a good degree of reflection; excellent discernment of character, or the organ of Human Nature large; a good degree of Constructiveness; and a balanced temperament, the nervous, if anything, predominating slightly. Of course, he should be kind and sympathetical, yet firm and positive enough to insist upon the observance of his directions. We can not conceive a good physician deficient in Human Nature and perceptive ability, who has an excess of Firmness and Self-esteem, predominance of Combativeness and Acquisitiveness, a deficiency

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in Constructiveness, and who is wanting in Hope. Large Destructiveness is essential to the surgeon.

SKATING FOR YOUNG LADIES.—J. H.—We think that for young ladies of average health and vigor, skating is a pleasant accomplishment. They should indulge in it, however, moderately. The trouble is that there is so much fascination in gliding over the glassy lake on glistening steel, that girls, like boys, are inclined to its extreme indulgence. We think that girls should learn to skate early, because it is an art, which is not easily acquired in maturity, like all those which require the exercise of muscles.

WELL-BALANCED HEAD.—C. A.—A head may measure twenty-four inches and be well-balanced; so it may measure twenty-one or twenty-one and a half and be well-balanced. Size of body, if it represent physical vigor, has a very important influence upon the brain. A feeble body, associated with a large head, is like a large steam-engine associated with a small boiler. There is not power enough to enable it to work with ease and facility. A head measuring twenty-two inches in circumference and fairly-balanced, should be associated with a body weighing in the neighborhood of one hundred and fifty pounds. Every half inch in addition will require about ten pounds additional weight.

MEMORY RESTORED.—But little reading daily and careful attention to the wants of the body, so that physical strength shall be retained, and thought upon whatever engages the attention, will help you toward the restoration of your memory. The work on the "Memory" which appears on our list of publications, will assist you.

HYGIENIC DIET.—Is flesh-meat a suitable article of diet?—M. S.—Not according to the strict Hygienic formulary. It is claimed that "Hygienic" means *natural* methods; a system that employs the material furnished by nature as found in simple forms; that they who eat, may eat for nutrition, strength, and refreshment, not for stimulation, excitement, and disease.

What They Say.

FEELS INDEBTED.—*Editors of Phrenological Journal:*—I have been for many years a firm believer in phrenology. The first time it attracted my attention I was very much interested. Professor Snyder was lecturing in a Western town, and I attended his lectures, having never before heard a lecture on the subject. He gave me a private examination; and, among other things, told me that I could not distinguish one tune from another, which is a fact. I never could learn tunes, or tell the difference between tunes; they all sounded alike. Professor Snyder was an entire stranger to me, and it astonished me that he should know me better than I knew myself. He told me that I could not handle tools; was awkward in making anything; in fact, was unfitted to become a mechanic, which was also true. But he advised me to study phonography, and train myself for a newspaper correspondent. I left the farm, and acquired a knowledge of short-hand. I am now twenty-four years of age, and traveling correspondent on the staff of a Chicago daily, and feel that I am in my right vocation. My father wanted to make a mechanic of me, and I *know* I never could have bored a straight auger-hole. I feel that I am indebted to phrenology for all I am to-day. I think that people generally have more confidence in the science than formerly; they attend lectures on it, and seem eager for more knowledge. I am often asked the question, Where can I get books on the subject? Can I learn it without a teacher? etc. I was talking with a teacher in the public school of a Western city a while since, when he remarked that he used phrenology in his profession, and that he would not give up what he knew about it for all the other studies, for it was the great secret of his success as a teacher; and he is recognized there as a *model teacher*. REPORTER.

THE SCIENCE OF MARRIAGE.—Men and women are organized beings, and all the happiness possible to them comes as the result of the harmonious action of their faculties, and all misery as the penalty of inharmonious action. The highest degree of happiness possible to mortals, is reached only through the marriage of perfect complements of the opposite sex, while an inharmonious marriage plunges its victims into a gulf of wretchedness unequaled save by Tartarus itself. Young men and young women should understand each other before entering into the sacred relation of marriage; should know each other's talents, tastes, dispositions, habits of thought and action, likes and dislikes, antipathies, and idiosyncracies.

"How can two persons journey together in harmony unless they be agreed?" How can two be happy together, if one is refined and the other vulgar; the one social and hospitable, the other unsocial and niggardly; the one conscientious and virtuous, the other deceitful and dishonest; the one intellectual and literary, the other ignorant and frivolous; the one democratic, the other aristocratic; the one liberal in religious belief, the other bigoted and narrow.

True marriage demands that the twain shall be one, not only one flesh, but one in spirit. Every heart-throb should be in unison; every

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mental action in harmony; every soul aspiration anchored in the same haven.

How are persons to judge correctly of the characters of others and thus avoid blundering in the selection of connubial mates?

I answer: Phrenology furnishes the key to the science of marriage, and there is no longer excuse for blunders. By the aid of Phrenology we can measure, weigh, gauge and analyze ourselves and our neighbors so accurately as to know just what we are, and what we demand as a *sine qua non* to our happiness. Phrenology unfolds the treasures, or exposes the poverty of heart, soul, and mind. It is the "*open sesame*," before which the flimsy curtains of deceit roll back, leaving the hypocrite stripped of his arts, and powerless for harm, while it is equally potent in unveiling modest worth, which might but for its aid have remained unknown and unappreciated.

Marriage is not a conventional or sacerdotal institution, but a natural, therefore a divine relation; a demand of our nature implanted there by the Creator, and whosoever disregards this demand fails of attaining the highest degree of usefulness or happiness.

Each lad and lassie has an ideal of life, and marriage is the beginning of its realization. This ideal is not an air-castle. No, it represents the attainable real. "We are not mocked. It was not in derision God made our spirits free. The maiden's brightest dream is but the dim prevision of blessings that may be."

[The above contribution is from Dr. T. A. Bland's lecture with the same title.—ED.]

A DOG GLUTTON.—A friend related to me, that while in the country last summer she noticed one day a very peculiar-looking dog, and seeing the same animal very much reduced in size a few days after, she inquired the cause, and was told that he was a victim to his great love for buttermilk. Every time they churned he watched his chance, and would steal off to the pigs' trough where the buttermilk was taken and drink greedily. In a short time his whole body would begin to bloat and become so aldermanic in proportions that he could not walk. Sometimes he would be very sick, but would soon recover, and be ready to resume his dissipation at the first opportunity. We met a gentleman some weeks since in the streets whom we had not seen in several years, and remembered him as a thin, sallow-looking man, with a care-worn, anxious expression of face. Now he walked erect, with brisk, elastic step, and his cordial greeting proved that his mind was lighter at least. We remarked upon his changed appearance; he looked ten years younger, his face was full, a healthful color glowed on his cheeks, and his general bearing was that of a person who enjoyed physical life to its utmost.

"You will laugh at my medicine," he said, "it is so simple, only buttermilk. I bought it all summer. When I could not get it at the store, I got a churn, bought fresh milk, and made our own buttermilk at home. I have gained thirty pounds, and enjoy perfect health."

We presume that he did not take it in quantities like the dog above spoken of, but used it as a good thing should be used, in moderation.

READER.



In this department we give short reviews of such NEW BOOKS *as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor us with their recent publications, especially those related in any way to mental or physiological science.*

"GRAYBEARD'S" LAY SERMONS. By John Franklin Graff. Price $1.75. Philadelphia: J. B. Lippincott & Co., 1877.

In many respects this is a remarkable book. It is full of the spirit of practical piety, rendered plain and familiar to the common understanding; and it is discussed in a lively, cheerful style, with enough of the secular from the domain of daily life and common sense to relieve it of anything like theological dogmatism; at the same time there is in it the earnestness of vital piety and an ardent spirit of brotherhood. The writer has been for thirty years familiar with the doctrines of Phrenology, and its exposition of mental life, and we fancy we see the reflected light of that science beaming over his pages; yet in the treatment of his subjects he keeps within the recognized boundaries of systematic theology. If he could drop his editorial pen and engage in pulpit work, he would, perhaps, serve the world better than in any other manner; yet he who works his way upward in the realm of daily life and duty, in contact with business and with men, to a point where he can become a teacher in things moral and spiritual, may be able to do more for mankind as a "lay preacher" than one who has received consecration in due form, and is regarded as professionally separated from the masses. We have been accustomed to read our friend's articles for many years, and always appreciated the hearty philanthropic sympathy which seemed to animate them. The book before us, which contains also a fine steel engraving of the author, must be welcome in the family, in the Sunday-school,

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and in the regular pastor's study. Price, in extra cloth, $1.75.

A STRANGE SEA STORY: A Temperance Tale. By Mrs. Julia McNair Wright, author of "Jug or Not," "How Could He Escape?" etc. 16mo, pp. 427, cloth, $1.50. New York: National Temperance Society and Publication House.

A very industrious writer is Mrs. Wright, and her literary interest seems to be given almost entirely to the imparting of practical truth with respect to alcoholic vice, in story. She appreciates the necessity of educating the young in the ways of virtue, in order to render social reform substantial and progressive. Hence her lively, vigorous tales are adapted to the youthful mind. The volume entitled as above is a story of the sea, which would enlist the close attention of everybody. There are tempests, sailors' yarns, and remarkable emergencies depicted with much graphic emphasis, in which a brave and skillful captain, who is given to occasional fits of intoxication, and in them committing fearful deeds of cruelty, forms the conspicuous object in the foreground, or rather, for consistency's sake, "on deck." Some good hints on the treatment of the starving occur in Chapter XI., proceeding, as it were, from the mouth of a German surgeon. It seems, too, that that surgeon's crew got on "main well" without grog. The author, probably not familiar with the German language, "mixes things" somewhat in her renderings of Dutch-English, but we are not going to call the imputing of such language as "das knabe" and "ein gute mans" to an educated German a fault, for there 's spice in it, and the good German naturalist teaches some wholesome lessons.

MOTHERS AND DAUGHTERS: Practical Studies for the Conservation of the Health of Girls. By Tullio Suzzaro Verdi, A.M., M.D., author of "Maternity," etc. 12mo, pp. 281, cloth, $1.50. New York: J. B. Ford & Co.

The burden of this new volume is well exhibited by a few extracts from the author's preface. "In every household will be found young women who, from the day of their entrance upon womanhood, have become victims of periodical sufferings; mothers who, after giving birth to a child or two, are exhausted for the remainder of their lives; women who drag a suffering body in the exercise of family duties. The learned physician now looks upon these social customs and practices as the cause of the deterioration of women, drops the purely medical art—the drug—that can not bring blood to their arteries, tissue to their muscles, or bone to their frames, and studies the organization of their nature and the requirements for its preservation. The Hygeia of antiquity was a mythological idea; Hygiene, of to-day, is a science. * * * Has the civilization of the last century done no more for woman than to reduce her strength and her capacity? If so, it is high time that it direct its best efforts to her moral and physical improvement. Is not the present system of female education founded upon a radical error, when it is proven by statistical observations that the physical condition of the educated woman is far inferior to that of her illiterate, laboring sister? * * * In every school there should be taught anatomy, physiology, and hygiene—and the latter *practiced within its walls.*"

The various topics comprehended in this department of study and reflection are discussed by Dr. Verdi with an earnest candor and directness of application which can only proceed from many years of personal experience. From the opening chapter on "The Mother's Duty," to the closing one on uterine displacements, we recognize the learned and liberal physician. Appreciative of the influence of temperament, he counsels a differential line of life adapted to the differently constituted, uniformly decrying the use of stimulating substances in food and drink, and exciting and enervating practices in reading and society. "Tea and coffee," writes he, "have done more injury to nations and to people to whom they are not suited, by reason of climate or temperament, than all the battles of the twenty years' wars of the great Napoleon." A physician related to the regular school, he now and then alludes to some well-known specific, but appears to prefer natural appliances and "hygienic treatment" as a rule. The literary tone of the book is high, and adapts it to the best circles.

PHONETIC AND STENOGRAPHIC SHORTHAND: A Scientific System of Sound and Sight Writing. By Rev. Thomas Mitchell. Brooklyn, N. Y.

This new candidate for phonographic honors reasons fairly in the short introductory treatise on the philosophy of short-hand; stating truths therein which no intelligent phonographer will deny. So, too, he will not deny that the best of the short-hand systems in common use has its defects, and will be ready enough to affirm that the most conspicuous of the defects are in the ways of applying their principles to reporting practice. Some of the "improvers" of Pitman, in their anxiety to substitute abbreviated forms for that facility in expressing the proper outlines of words, which is derivable only from much practice, have trended on arbitraries, and so have complicated, instead of simplified, the original system. Mr. Mitchell takes some of these improvers to task, and justly, we think. But when we come to the elaboration of Mr. Mitchell's principles in practice, we can not give our verdict on the side that it is "so comprehensive and perfect, both as it respects rapidity and legibility, that there will remain not only no motive for change," etc. Many of his forms seem to us difficult to execute, and many of his

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word-signs are so comprehensive that their relation to the full-outlined word is remote. For instance, f y—finger; f h—furthermore; fo g—foregone conclusion; n er—enterprise; s p—essential; m f—emerged from; u v—love of God; oths—others were sent. Being a practical phonographer himself, the editor knows of nothing in the Pitman system so removed from the complete forms. Some of the methods of indicating different words by merely shading a part or the whole of a curve, seem to us objectionable, both on account of the difficulty of faithfully rendering the different shadings in rapid writing and the unphilosophical attempt to make a certain stroke answer for a half dozen words of very dissimilar significance. But after all, the "proof of the pudding is in the eating," and if Mr. Mitchell's device, in a few years' trial, turns out to be more suitable for the purposes of every-day life than Pitman, Graham, and the rest, we shall heartily urge its general adoption.

MY MOTHER'S MANUSCRIPT: being a True Picture of the Private Life of a French Family during many of the most eventful periods of the Nineteenth Century. With Annotations, Prologues, and Epilogues. By Alphonse de Lamartine. Translated from the French by Maria Louisa Helper. 12mo, cloth, pp. 282. Philadelphia: J. B. Lippincott & Co.

This work "forms, with the unpublished 'Memoirs,' the last link in the narrative of his life, which Lamartine himself has prepared. It contains the sweetly romantic incidents of his childhood and youth." This we are informed by Rouchaud, the French publisher, while the distinguished and unfortunate author tells us, in a very brief preface, that the work was never intended for publication, but that "an entirely domestic circumstance" led to its presentation to the public. That "domestic circumstance," it is almost needless to say, was pecuniary embarrassment. To those who are fond of obtaining glimpses of the domestic and inner life of the children of genius, and to those specially who find a mental gratification in considering the pathetic side of human nature, this volume will be very acceptable.

We are told in the course of the narrative ascribed to his mother, that at some time during the French Revolution her father was suddenly arrested and shut up in the prison of Macon, which stood nearly opposite her grandfather's residence. There her mother lived at the time, and from the garret window managed to communicate secretly with the dear prisoner who had been allotted a cell in the attic of the stronghold. She contrived to use a bow, which was the property of the chevalier, her husband, after practicing several days shooting at a target, as a means of communicating more freely. Letters and other things were interchanged with the assistance of a cord, which she succeeded in throwing across the street to his window attached to an arrow. Many events of the reign of terror and the days of Napoleon le Grand are alluded to, giving the volume an historical significance.

The habit of Lamartine's mother in keeping a journal proves a rich mine to him for thought, quotation, and suggestion, and doubtless contributed in large measure to formulate his literary taste, as well as to cultivate the minds of all her children. Perhaps no carefully-sustained intellectual action of a refined man or woman would be of more service to their children than the daily noting of incidents of importance in the progress of life's experience. To those women who might need a pattern for such a course, "My Mother's Manuscript" would be of value. The translator has performed her task well, entering heartily into the spirit of the original; to render the sentiment of the poetical parts, she has labored to give their true significance, rather than to contrive measured rhymes.

PUBLICATIONS RECEIVED.

HISTORY OF THE ST. ALBANS RAID: Annual Address before the Vermont Historical Society. By Hon. E. A. Sowles. An interesting reminiscence of the late civil war.

THE ATLANTIC MONTHLY for January was at hand early, and proved in the reading one of the most satisfying issues of that well-conducted magazine which we have conned over during the six months past. An excellent promise for 1877.

THE Illustrated Christmas Number of THE PUBLISHERS' WEEKLY. 1876. A beautifully-made compilation of the book tables of leading American publishers.

THE ILLUSTRATED ANNUAL REGISTER OF RURAL AFFAIRS, for 1877, with over 140 Engravings. By J. J. Thomas. Albany, N. Y.: Luther Tucker & Son. Price 30 cts.

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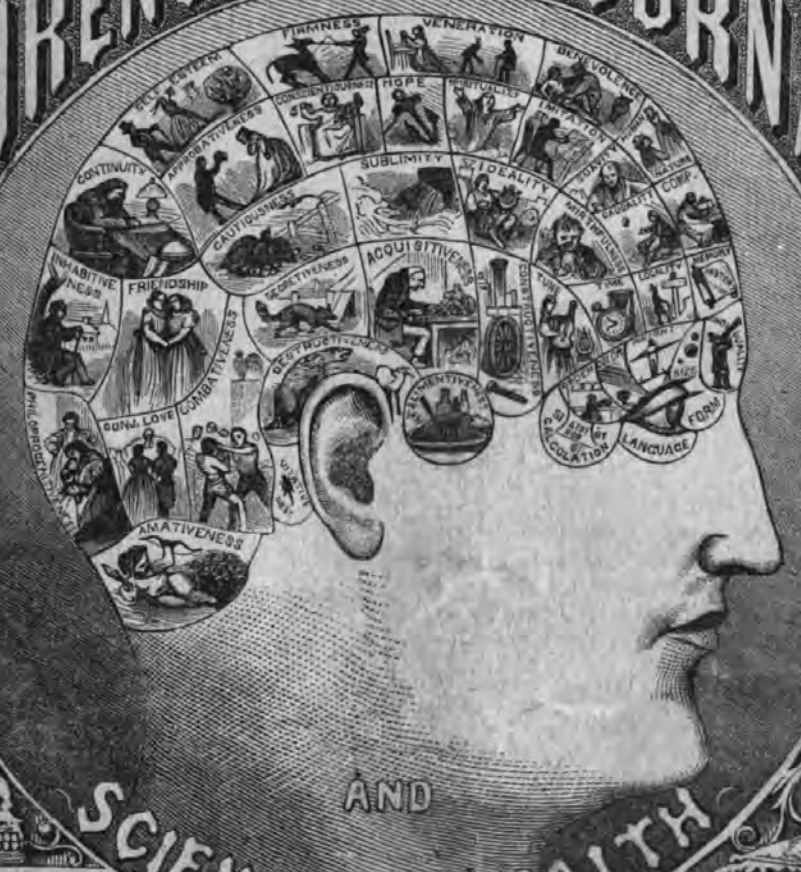
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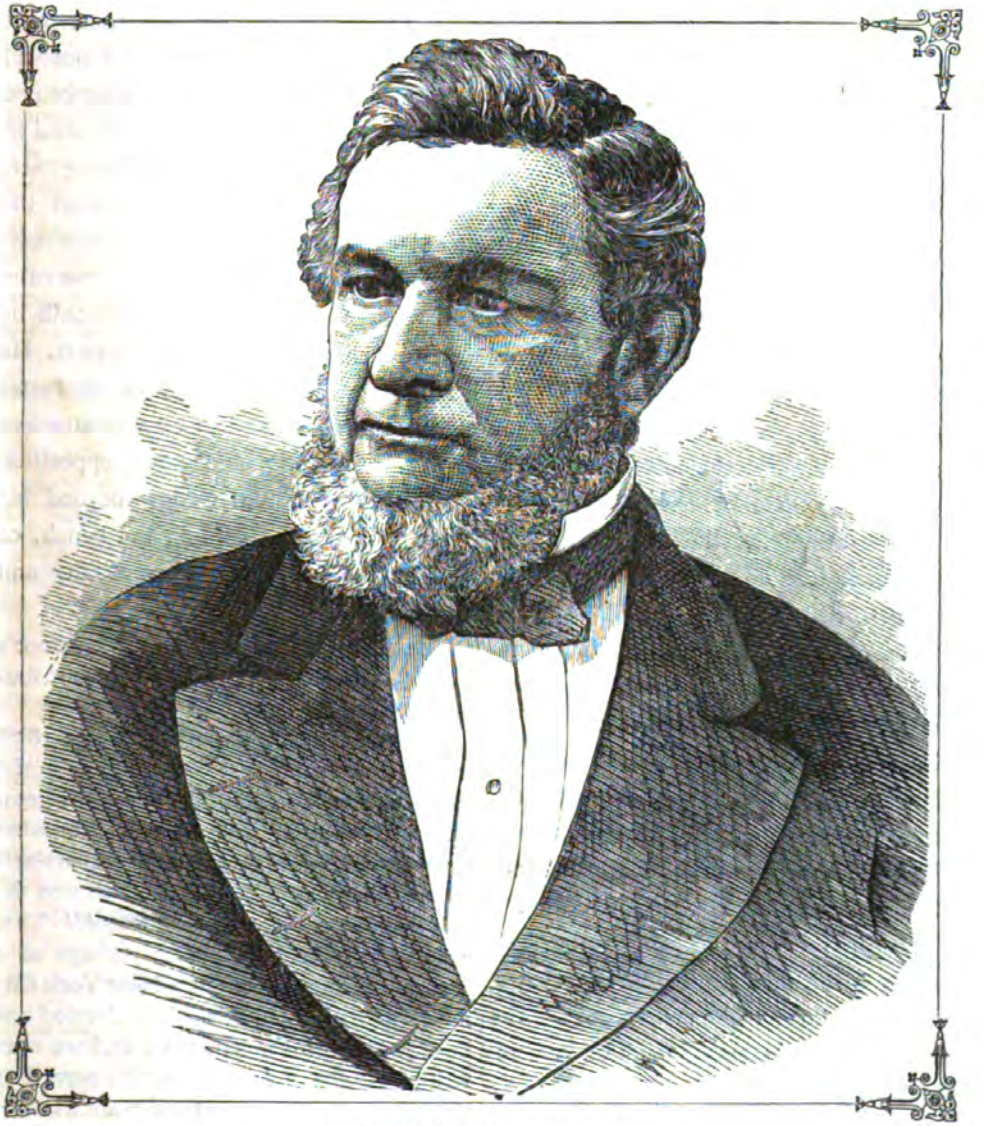
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THE PHRENOLOGICAL JOURNAL AND LIFE ILLUSTRATED.

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LUCIUS ROBINSON,

GOVERNOR OF NEW YORK.

THE portrait indicates a man of very solid and substantial organization. He should be healthy, vigorous, strong, enduring in body, and capable of maintaining

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a state of physical and mental soundness to old age. Few men of his years are as young as he in appearance and mental manifestation. His physiology shows more of harmony and strength, however, than of quickness and elasticity; more of that sturdy endurance that can hold out to the end, bearing its cares and burdens grandly, than of those qualities which are brilliant and attractive. As a lawyer he should be emphatic rather than animated in speech; and more sound in logic than showy in rhetoric. His observing organs are fairly developed, but his strength of mind lies more in the reasoning department of the intellect. He ought to be successful as a mathematician, and sound and forcible as a writer or speaker.

He sees the mirthful side of subjects, and in argument is very much inclined to dwell on the absurdity of that which he rejects or opposes. He copies readily, conforms to usage, and glides into the habits and methods of those by whom he is surrounded. He has Agreeableness, or the desire to make himself acceptable to people, and will have many personal friends outside of his special alliances. Men not of his political or religious faith, and those outside of his professional associations, become his friends.

His social nature is strongly marked; and those whom he chooses to select as friends, and on whom he inclines to bestow his friendship, become steadfast friends, and will stand by him through thick and thin.

He has more of the tendency to be just than to be lenient and liberal. He is cautious; inclined to be conservative. He has more sturdy strength and bravery of purpose to hold on and worry out his opponents than he has of tact and address to take and maintain the lead. His Combativeness gives him a relish for opposition, while his Destructiveness is strong enough to make him severe if once decided upon a course of action. He is not one who would be likely to mitigate punishment through sympathy.

He has mechanical judgment, and would succeed in mechanical science, such as engineering, architecture, and invention.

He would succeed as a financier, having large Acquisitiveness, and a strong natural sense of economy. Every dollar of his has to bring back, in some way, what he considers to be a dollar's worth of service. And he can understand the science of finance, and is likely to take an unswerving course in reference to money matters. If called to be the receiver of a bank, or of an estate, he would always aim to understand the merits of his position, and insist on obedience, by all persons concerned, to the rules of law and fact in the case. He would be a stern adjudicator of financial matters. He has courage and strength of character enough to raise him above considerations of fear. Browbeating and noisy opposition would not make him mellow beyond his sense of duty if he were on the bench, or occupying any place of responsibility and authority.

The following sketch of the Governor's career is supplied by a well-known contributor:

One pleasant afternoon in March, 1858, the writer paid his first visit to the editorial rooms of the *Evening Post* in quest of employment. Passing by the door of a somewhat dingy, unoccupied room, his eye was attracted by a dingy strip of tin on which was the half-illegible name, "L. ROBINSON." That "sign" remained for years; perhaps as a sort of talisman—such as a New York City newspaper greatly needs. The election had been held in November, 1859, and we were writing at the rude shelf, which served as our table, when there entered "a darksome man" of serious, but agreeable expression, who briefly introduced himself, and then remarked that a telegraphic message from Elmira had informed him of his election to

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the Assembly of New York. This was LUCIUS ROBINSON. The matter was duly paragraphed, and the name placed in a list of "Assemblymen Elected." The acquaintance thus begun was renewed at Albany, a few weeks later; developing on our part into a profound admiration and esteem, which familiar acquaintance for a period of years only served to deepen.

Lucius Robinson, the Governor of New York, is, indeed, of "the bluest blood of the Puritans." His lineage is traced by his biographers from the Rev. John Robinson himself, the pastor of the congregation that sent the first colony of Pilgrims to Plymouth. This is easy for any one to believe who ever had opportunity to observe the Ironside character exhibited by the first citizen of the Empire State. Mr. Robinson was born November 4, 1810, at Windham, in Greene County. He received the usual education at the district school; and entertaining some ambition to "strike out" for himself, he afterward entered the Delaware Academy, at Delhi, N. Y. He paid for his tuition and other expenses in the old-fashioned manner by earning money at school-teaching in the winter. He then began the study of the law in the office of the celebrated Erastus Root, completing his reading with the Hon. Amasa J. Parker, and was admitted to the bar in 1832. He commenced practice in 1833 at Catskill, and the same year was married to Miss Eunice Osborn, of Windham. His career appears to have been prosperous from the first; besides, he was always a hard worker, thrifty, frugal, and inflexibly persevering. He was an ardent Democrat, and Gov. Marcy appointed him District Attorney of his native county. With the change of politics in 1839, he was replaced by a Whig and soon afterward became a resident of the city of New York. In 1843 he was appointed by Gov. Bouck a Master in Chancery, and three years later was reappointed by Silas Wright. The adoption of the Constitution of 1846 abolished the office. Mr. Robinson continued in the diligent prosecution of the law in New York till 1855, when his health became impaired by overwork and the unwholesome influence of the climate of this city. He removed to Chemung County and engaged in practice at Elmira.

He had long been on intimate relations with Samuel J. Tilden, Wm. C. Bryant, Lorenzo B. Shepard, and other leading men in Democratic politics. In 1848 he acted with these men in the Free Soil movement; and when in 1856 the "Democratic-Republican State Convention" resolved to co-operate with the Republican party, he was one of the number. In 1859 he was elected to the Assembly, receiving a vote flatteringly increased beyond that of any other candidate; and was a prominent member of the Legislature of 1860. He made an able speech against the bill to compel the trunk railroads of the State to fix their rates of freight *pro rata*, and another against the New York City railroad grants, by which absolute title to certain streets were given to private individuals, without due guards and restrictions. The grants passed the Legislature; several of them receiving the approval of Gov. Morgan, while others, being vetoed, were by arrangement enacted by the Legislature. Mr. Robinson was again elected in 1860, and was supported as a candidate for Speaker. He failed, however, through bad counsel of certain of his supporters; the opposing caucus candidate, Mr. Littlejohn, having the support of all the jobbers and other interests represented by the Whig portion of the party.

His career that winter was the earnest of his future. The first day of the session he introduced the famous Robinson resolutions, to reconcile the difficulties then existing in the nation. They proposed the division of the public territory of the United States into two States, the inhabitants of which should settle the question of slavery for themselves, outside of Congress. His friends who had supported him for Speaker deserted him in this matter, about which he had not consulted them; and he defended it alone, in a masterly speech. He predicted war, the desolation of the country, a prodigious destruction of life, widespread ruin, grinding taxation, a depreciated currency, general demoralization, and finally an adjustment by compromise very similar to what was refused at the outset of the rebellion.

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The same winter Mrs. Robinson, whose health had long been feeble, finally succumbed; and domestic bereavement was added to his other perplexities. But he shrank from no duty. "That man," said Harry Arcularius, of New York, who sat next to him, "that Lucius Robinson has not a thought or wish but what is for the good of the country."

The Southern States seceded, and the Federal garrison was attacked and compelled to evacuate Fort Sumter. The news reached Albany on Sunday. The same day Mr. Robinson prepared a bill for raising troops, and placing $3,000,000 at the control of the Governor for the purpose. To obviate parliamentary evasions, it was reported on Monday in the Assembly and speedily passed both Houses by an almost unanimous vote. "The day of compromise has passed," said Mr. Robinson, as he arose to support the bill. "The question must now be decided by the arbitrament of the sword. Till this is accomplished, I will belong to no political party. I will know no party but the party of the country."

The ensuing autumn, a "People's Convention" met at Syracuse, and nominated a State ticket, making Mr. Robinson the candidate for Comptroller. He received a majority exceeding 108,000; a majority never paralleled in the history of the State in any contested election. The Republican Convention of 1863 ventured to propose another candidate, but he declined, and Mr. Robinson was again chosen. The next year leading Democrats tendered him their nomination for Governor. Mr. Robinson, however, declined, although his election was morally certain. The next year he became president of the Widows' and Orphans' Life Insurance Company, and contemplated withdrawal from public life. The Democrats, however, nominated him for Comptroller without asking his consent; at the same time choosing Gen. H. W. Slocum, another Republican, their candidate for Secretary of State. The ticket, however, was not successful. Perhaps Mr. Robinson himself contributed to that end. Unexpectedly to the men who nominated him, he wrote a letter of acceptance. He exhibited in it his strong affinities for his former political associates, and that he regarded the Republican leaders as men destitute of the proper patriotism and statesmanlike character, if not outright mercenary and corrupt. He foresaw the impending relaxation of the bonds of civil society, the general demoralization of the people, and the consequent inevitable disaster.

But he was not suffered to remain many years out of public life. In 1871 he was appointed by Governor Hoffman a member of the Commission to revise the Constitution of the State. It was the most eloquent testimony to his merit that the amendments, although often revolutionary to the previous policy of the State, were all of them ratified by prodigious majorities; and by an almost poetic compensation he was in turn the first Comptroller and Governor elected under their provisions. In 1875, at the instance of Governor Tilden, he was, for the fourth time, made a candidate for the former office; and in 1876, became the Democratic candidate. He made no canvass, not even a speech, yet his majority exceeded 50,000, and in most of the counties he received a larger vote than Mr. Tilden.

Few Governors of New York have ever possessed a higher reputation for personal and official integrity. His administration of every trust devolved upon him has been characterized by an obstinate integrity and fidelity. He is a man whom the thieves hate. His personal attachments are earnest, persistent, but never very demonstrative. He is the plodding man of business, apparently with little sentiment or romance, yet almost literally brimful of both. He seems hardly to notice the faults of his friends; and we fear we must add—to perceive the virtues of his adversaries. His tastes are domestic, and he is happiest in his own home. He would not, knowingly, perform a wrong or unjust act; but is, nevertheless, decided and resolute in his judgment and action. He is totally destitute of the craft and dexterity of the demagogue. How he ever became a public man, is a question we would like to hear answered; it certainly was by no art, finesse, or other measures peculiar to politicians. We imagine it

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must have happened because of his zealous earnestness of conviction, his untiring industry and fidelity, which made him observed by his fellow-citizens at times when he knew it not. W.

NEW YORK, *March*, 1877.

EGOTISTS.

HOW few who have formed some plan and have fallen in love with its outline, mirrored on the bright clouds of the future, take the trouble to consider what has become of the similar plans of other people. They can learn by no one's experience but their own. No matter what the course of their life, they can not believe it can prove a failure until it has proved a failure, and they do not believe it then, either. The boy spends his strength and wastes his rich patrimony of mind and body sowing his wild oats, and hopes that somehow or other a waving harvest of the wheat of successful, happy, honorable manhood will be the result. The man abjures mental culture and recreation and the comforts awaiting him at home, and lives without a thought beyond how to put a dollar on top of that last one he got hold of, and has some kind of a hazy hope that sometime or other the pile will be so big that it will be comfort enough for him to look at it and do nothing else. The boy sees those who have sowed as he is sowing, and they are reaping of the flesh corruption, reaping the whirlwind. The man sees those whose pile is bigger than anything he hopes ever to reach, but the sun seems never to shine on their face, and avarice gnaws their very heart. Yet the boy or the man can not learn any lesson from this. They admit all the evil that befalls their neighbors. They can look even with cheerfulness upon the misfortune of others, and trace these misfortunes to the folly or vice of those whom they afflict; they can see the weak points in all schemes in which they are not themselves concerned. They are able to believe that the most dreadful things will happen to their fellows, and they can bear it without murmuring, but they can not believe that these misfortunes will befall themselves. As men believe all men mortal but themselves, so they believe of all the dearest objects of their affection, whether these be blood-relations, money, favorite pursuits, or schemes.

There is a grain of benefit in this "looking at our own things and not at the things of others." As the sun can gild with some beauty the tamest landscape, so the sanguine temperament is needed to cast a bright glow over the sober-tinted, monotonous, or dark pathway of life. If human nature were not sanguine, the chances are that more persons than now do so would decline any longer to attempt to bear the burden of life. As it is, we endure uncertainties and troubles with equanimity because we wish, and then hope, and then believe, that in the future all the clouds of our existence will clear away and give place to a glorious, revivifying, and everlasting sunshine. That we go on hoping and growing older without the good time coming, and that the prizes which have tempted turn out to be always disappointing, and often bitter to the taste, does not cause us to lose faith in our own particular star of fortune. Nor does the fact that we plainly see day after day that our neighbors are longing for the impossible, and hoping for what they will never get, cause us to question the soundness of our own imaginings.

Now, in proportion as any one is thus a profound believer in himself, he is an egotist. The man who has this quality highly developed, complacently believes in all his words and actions, their present beauty or rectitude, and their future happy results. Some of this class go in strongly for religion, especially in the form of a retributive or a benignant Providence. Mr. Egotist, if one of his children or chickens dies, if the Savings Bank he patronizes breaks, if a sneak-thief appropriates his hat from the hall, or his umbrella mysteriously disappears, if his potatoes or wheat are not half a crop, if some one cheats him of one dollar or a million, or he fails in trying to cheat some one

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else, in any misfortune which befalls him, sees piously naught but the chastening hand of an approving Deity, who thus recognizes his merit—as, we suppose, a diamond may feel complimented by the hard usage to which it is subjected in polishing; since if it were not a diamond, no such trouble would be taken with it.

But if any of these woes fall like a hail-storm upon his neighbors, he takes quite a different view of the affair. It is now *a judgment;* he had always been afraid something of the kind would happen. He is very sorry for his neighbor, but it was only natural his son should turn out badly, with such an example and training as he had at home!—if he doesn't go to meeting once a month, who can wonder that half his cows should die in one year! He refused to lend neighbor Egotist that fifty dollars last week, how natural that he should lose it now!

A great many of this family connection, while firmly persuaded that through their superior merits they will take their places in Heaven, are just as firmly assured that a good many with whom they are acquainted, and whom they will be happy to name to you under such interesting circumstances, will howl and blaspheme in another place, and though they turn up their eyes and heave a comfortable little sigh, they are really more than cheerful under this belief, and dilate on the subject with much gusto. Now we admit that a good deal of pity ought to be mingled with the reasonable contempt with which we regard such sentiments, because such persons are only true to their own natures; but yet it would be well if men and women could be induced to believe that there is no reason why they should be more exempt from the ordinary law of probabilities than their neighbors. How many people there are whose religion is practically Fatalism, and who would be horrified if a suspicion of that fact should dawn on them. They are incapable of containing two ideas in their mind at once, or indeed more than an inconsiderable fraction of any ordinary-sized idea, and having a belief in the important doctrine of a Special Providence, they unconsciously come to believe there is a Divine Providence which considers some parts of their life more valuable than others, and has for some people (by some occult principle of selection which they would find it difficult to define) more care than for other people. Such a false way of thinking makes people calmly and stupidly self-sufficient, and causes them to act foolishly and wrongly. It fosters Phariseeism, and makes people, as they walk through life, gather round them their skirts and coat-tails in the stand-apart-I-am-holier-than-thou style. Its victims will be found ready to condemn whatever their friends do; but whenever the critics do the same things, their actions seem to themselves beyond the range of anything hostile, except the most ill-natured criticism. An example of this may be found in English History. During the struggle between Charles I. and his parliament, Clarendon was at first on the side of the patriots, but afterward came over to the king's side. In his "History of the Great Rebellion" he paints the patriots as sober-minded, honorable, and discerning, while he acted with them; but from the time he left them they became a pack of God-forsaken miscreants.

The people who have the fullest belief in themselves are the most uncharitable people living, and there is nothing more difficult than to persuade them to plead guilty to the charge. It would not be strictly correct, perhaps, to say that they have little charity in their natures; but the trouble is, that however great may be their stock of *forgiveableness* or appreciation of goodness, it is all needed for home-consumption. They look with such benignant indulgence upon themselves that they have little of this indulgence to spare for others. They are very ready to appreciate goodness; but like pennies placed on their eyes, their own goodness covers all their vision and prevents their seeing the great expanse beyond. Apparently, their belief in themselves renders them incapable of believing in any one else. Here is my friend Tompkins, for instance. He is firmly convinced that his motives in his different spheres in life are perfectly pure and honorable; that he is an unadulterated patriot; that he is a man of many excellent parts and talents; and that alike

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in his private business and public capacities, he acts in such a manner that he is bound sooner or later to become honored, prosperous, and completely happy, as he deserves to be. At the same time he is utterly unable to do justice to his friend Robins. When the aforesaid Robins electioneers for incorruptible men for town-officers, or lends money to an anxious business man to tide him through a tight place, or becomes zealously interested in some reform of neighborhood importance, Tompkins' gimlet-eyes can always bore beneath the surface and find some secret and not very reputable motive for Robins' energy. Robins always has some private axe to grind, he is sure of that. Now all that Tompkins really knows is that Robins' actions *may possibly* be accounted for in his depreciatory way, and, regardless of all probability, he at once leaps to the conclusion, and considers every one a credulous fool who ascribes to Robins any higher motives. But if Tompkins himself should do the very same thing as Robins, and in the same way, and people should judge him as he has judged his friend, he would think himself cruelly ill-treated, would fall back on his virtue and piteously wonder why he was ever born. Again, when Robins is fast piling up money, even in hard times, and is called "the lucky man," you will hear Tompkins grumbling, "Yes, he is rich; but how has he become so?" hinting that Robins' business, or at least his way of doing business, is not the most honest in the world. At the same time you need not be in the least astonished if in six months or less you see Tompkins embarked in the very same business, and carrying it on in the very same way, only perhaps scarcely so straight. And you do not know Tompkins as well as I do, if you are surprised to hear from him that this business, so far from being of a discreditable character, is of the most worthy character. The more he shuts his eyes to his own failings, or threatened misfortunes, the more he recognizes the failings of others. He has very little doubt but that Robins is living beyond his means. With a pleasant groan he tells you that his friend's son will be sure to be hanged, and that his daughter is consumptive. Every now and then Robins hears of some of these innuendoes and depreciatory utterances of this busy-body. He naturally feels aggrieved, perhaps offended, and then Tompkins raves worse than ever about his ill-nature, and taking offense for nothing.

It will frequently be found that the egotist discerns in others no spots so readily as those which mark himself. The man who can entertain you half a day with the names of those who are financially on their last legs, will very often be found to be in very close circumstances himself. The fox who lost his tail in the trap would be glad to induce all his friends to a like abbreviation; but if this may not be, he will circulate the story that many other foxes of his acquaintance have no genuine tails, only sham ones, or that at the most they are very short. Now it is a great pity that Tompkins will act in this way. Perhaps he can not help his beliefs, and if not, he must have an uncomfortable life. But he has no right to talk up his gloomy notions. Even supposing all his surmises are truth, what good results from their statement? He may have a ghoulish delight in dilating on Robins' *faculae*, but he will wake some day to the consciousness that he is a ghoul, and even the ghastly delight he feels is impossible for Robins' friends. He ought to try, at any rate, to take as cheerful view of others' misfortunes, and as lenient a one of others' actions, as he does of his own. We shall very often be right in reckoning among our own besetting sins those at which we feel the most indignant in others. Those who are addicted to accusation are generally themselves accused. The professional fault-finder is not a reformer, is not even desirous that the causes for fault-finding should cease. It is to be feared that some people are so given over to the idea that they are exempt from what must happen to their fellows, that it will be a long time before censorious prophets of ill omen will cease to exist.

GEORGE C. JONES, A.M.

DEAK, THE HUNGARIAN STATESMAN.—A great and simple man died when Francis Deak passed away. He was practical where

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Kossuth was the creature of sentiment. He would have been glad to make Hungary into a republic, but he was content to make her a joint member of the new Austro-Hungarian Empire. He died poor, as he had lived; rejecting all gifts of money and titles, whether offered by the Emperor or his admiring friends. He is the Washington of Hungary. He would accept no lucrative posts or hold any public offices. His expenses were but a thousand dollars a year, which he derived from a small landed estate. When the Emperor invited him to wait upon him, he went in a one-horse cab and his plain, every-day clothes; but he was Hungary, and would have been received in his shirt-sleeves. He refused to accept a carriage which his admirers purchased for him, but rode to the parliament house in the public omnibus. He lived poor and died poor, but there is no man in all Hungary who does not worship Deak's memory.



That which makes a good constitution should keep it, viz., men of wisdom and virtue; qualities that, because they descend not with worldly inheritance, must be carefully propagated by a virtuous education of youth.—*William Penn.*

THE GREAT PLAINS.

NO creature, exclusive of the African lion and company, can, without crossing its desolateness, gain any just conception of the vastness of area lying stark under the scorching summers and tempestuous winters between the populous East of which Plymouth Rock was the threshold, and the newly-opened country, with its wonderful resources, known as the Pacific slope. The "Great American Desert" of but a generation ago is sometimes written down a myth, I can hardly tell why, except it may possess a hidden life—certain elements of progress susceptible to human intelligence and enterprise not contained in the torrid sands of Sahara. Whoever, after having traversed this intermediate territory, can pronounce it other than desert, would seem at most to utter a prediction for the ages to fulfill.

Beyond the dead level extending on either side the Father of Waters; beyond the rolling prairies of Iowa, like an ocean petrified in the midst of a great storm; beyond the bluffs of broad Nebraska, where, if ever, broken surface and pines, sparse and stunted, bring relief to the eye, we, by degrees, emerge upon an almost illimitable tract, apparently remaining unorganized from the chaotic stage of the world. Before a human work so far advanced, yet so utterly incomplete, you would look about you for the tools of the artisan, where he flung them down to go to dinner, perhaps, and through some mischance never returned to renew his task.

There has no breath of life been breathed into it, whose inspirations should heave its bosom into hills and dimple it with valleys to invite water-courses which, like settlers in a new section, would send for their old neighbors, the trees, which would furnish an orchestra for the birds, which again would sow flowers, and thus the wilderness be redeemed for the use of man. Your eye can not solve the problem of how anything finds encouragement and support, where, indeed, animal and vegetable kingdoms alike, through the lapse of unknown centuries, continue in a rudimentary state. Herds of bison, deer, and antelope range these forbidding precincts, of which wolves—the large, gray species whose powerful front and fierce nature assimilate him to the lion, and the smaller and numerous coyotes, that, jackal-like, follow in packs to sit at the second table, are the chief resident landholders. The absence of bird life is a more noticeable dreary feature than at first might be imagined. Cleav-

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ing the upper air may be seen the swift wing of hawk or eagle bearing him to his distant haunt; but no lowly nest, no whir of azure pinions or visions of a golden breast, chirp, or song, relieve the solitude around.

Of vegetation, the sage-bush and greasewood have the monopoly, if that can be called monopoly where little else contends for existence. The latter is of woody fiber, with a very diminutive dark-green leaf; a kind of coyote, contemptible enough in detail, hideous only in the aggregate. With the former shrub, prominent in every description of the plains, I was eager to make acquaintance. My note-book chronicles the culmination thus: "I came, I *smelt*, IT conquered." This sage-bush is mighty among herbs, the gray wolf of all salvias. Botanizing is needless; one intuitively places it as a cross between wormwood and skunk cabbage. Whoever would adopt for a lapdog the quadruped of which the latter plant is namesake, would be able to preserve the sage-of-the-plains as a souvenir. The more it dies in your hands the more it lives in your nostrils. If ever I was heroic—I would

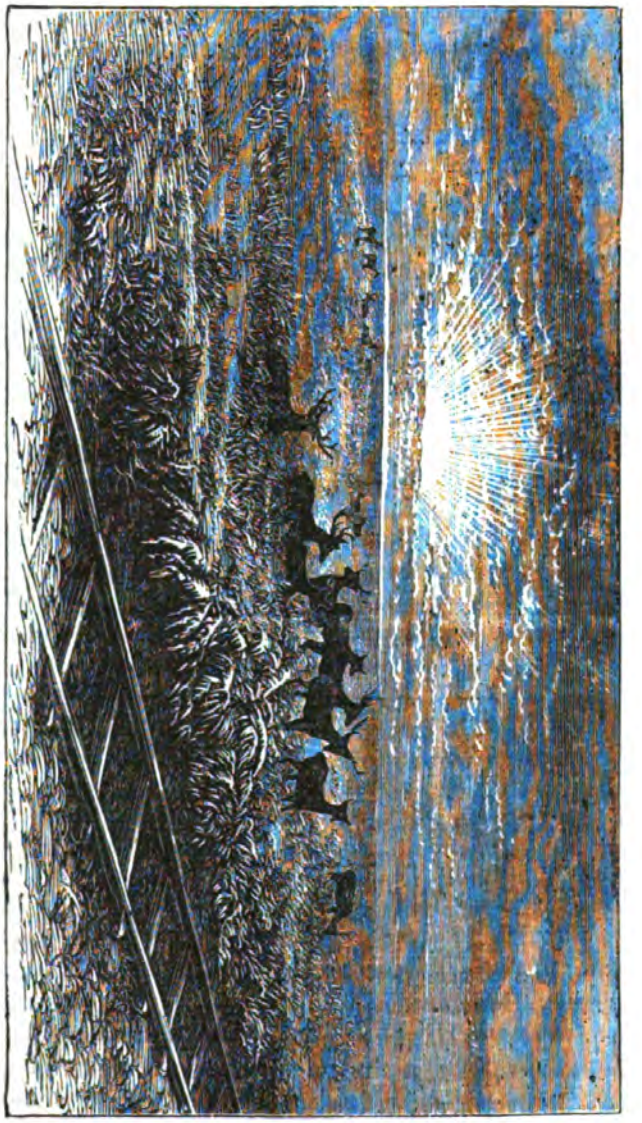


Fig. 1.—Sunrise on the Great Laramie Plains.

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not boast—it was when I kept over night a sprig of sage-bush which a Western judge, my old schoolmate, had been at pains to pick for me in my first enthusiasm. I parted from my specimen with equal disgust. I smelled it but a moment (poetically speaking), yet methinks I smell it now. Its scent clings to my traveling-bag a bitter memory, which nothing short of cremation could cure. It grows to the height of several feet, branching into a strong shrub, with foliage in color like garden sage, a dusty-miller, white-upon-green; plentiful, light and graceful, as its leagues undulate in the breeze; and there, if anywhere, long may it wave. It has to be extirpated before any other growth can succeed, which was the experience of the Mormon settlers at Salt Lake. To all appearance it is untouched either by grazing herds or by swarming locusts which not unfrequently pass in clouds to the frontier farms and devour to the last green leaf and growing stalk. Its odor is a better defense than even the spines of its neighbor, the cactus.

The latter plant presents itself in several varieties, one of the most common, the prickly pear, which is all leaves and without leaves, spreading in platoons of flat, fleshy joints, thoroughly armed with spinous clusters that sting the flesh they enter, and are withdrawn with difficulty, as witness men and horses engaged in our war with Mexico. Each leaf or joint strikes its roots into the soil, preempting another claim and sends out other leaves, and so on. In California, as along our Southern coast, this anomalous plant assumes the form of a tree. I saw them in the Valley of San José and San Rafael, the home of Bierstadt, from twelve to fifteen feet high, branching off in leaves three feet long by one wide, and an inch thick—not a foliage to be swayed by every breeze—with beautiful blossoms, like yellow roses, bursting forth freely at the edges in a show scarcely less surprising to unaccustomed eyes than bloom out of a bookshelf or a green baize door. Its fruit is a purple, edible fig.

Another, indigenous to the plains, is the rose cactus of our conservatories, but attaining a size that would astound private enterprise; a corrugated green ball, often a pile of balls large and small, like a mother opossum with her whole litter of young on her back, presenting a bayoneted front all around in myriads of white spines keen as steel. The pink-and-yellow rose, its blossom, is exquisite to the eye, but wastes no sweetness on the desert air. Like the camel, it carries its supply of water. Without their natural defenses, all would be despoiled in a single season for their succulence. The thirsty bison strikes it open with his hoof, applies his lips, still cautiously, and draws out the grateful beverage, leaving the robbed plant an empty bucket, a pulpy ruin; not always himself escaping the penalty of a wound and carrying away stings next those which torture a guilty conscience. At Teesdale, the last station before Cheyenne, the sombre little company's building, resembling a freight car with a window in its side, was ornamented outside and in with the few varieties of plants-of-the-plain for sale—primitive boxes holding cacti just unfolding their bright buds, and larger boxes the mountain pine, a dwarfish, stocky, knotty, coarse-foliaged species, the last effort of tree life. A plant *en solitaire* that makes itself conspicuous along the iron track by profuse clusters of yellow flowers, is introduced by the name of Yankee Girl. One of our travelers gave out this proposition: If a Yankee girl is so brilliant in the desert, what will she be in the gardens of civilization? Tufts and patches of coarse grass throw a tattered mantle over earth's nakedness, and suggest her possible redemption and subjection to the hand of man.

Such is the better portion of the great plains across which a quarter of a century since the emigrant and gold miner performed their long and perilous journey, following the trail of Indian and buffalo, followed in turn by the Pacific Railroad, one of the mightiest achievements of man in any age. On both sides of the Rocky Mountains, where the train conveys its daily quota of souls in comfort and luxury over the highest point on this continent, are tracts whose "curse for man's sake" has not been, in the lightest degree, removed, seemingly condemned to utter, hopeless, eternal sterility. There is

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the alkali region, on which a plant could no more exist than in hot embers. The surface is rolled into levels or roughened into hummocks and crazy hills; the wind blowing hotly over it like the breath of a passionate giant, fills the air with dust very irritating to the skin, which has been likened to the lice of Egypt. Everywhere ash color prevails, varied only by lighter shades, blanched by the angry elements. The wolf stealing forth at nightfall blends in the universal hue, seeming but a moving lump of the bluff in whose caves he hides from the light of day.

a mop. O-h! but you ought to hear them serenade once—just once. Wolves were not all we had to contend with. The last trip I made, we were badly frozen in a 'blue fog.' I lost part of my finger, as you see. A passenger was obliged to have one of his feet amputated. These blue fogs penetrate a man like a keen blade; he don't know his hurt until afterward.

"This Bitter Creek region is bitter every way. Horses drinking the water become 'alkalied;' I have often known one, after going sixteen miles, sold for ten dollars,

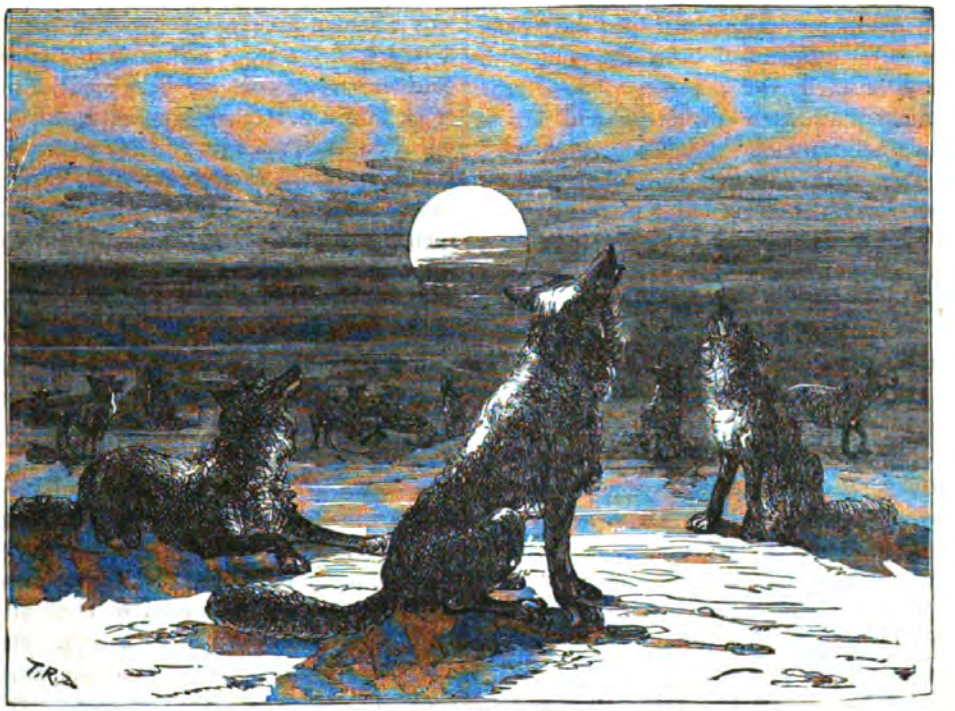


Fig. 2.—Coyotes at Work.

"I have stood on that ridge after sunset," said a gentleman still young, as we rushed past, "and counted fifty wolves which came out howling to usher in the night's raid. I used to drive stage here—in places you can trace the marks of wheels beside the track on our left—packs of wolves used to pursue us, half a dozen leaping upon the stage at once. I tried poisoning, they were so troublesome, and killed two hundred of the pests at a dash; but they were not missed, and I classed my endeavor with that of the old lady who thought to dry up the ocean with

which was worth one hundred and fifty at the start. Numbers of cattle of every drove are made sore-footed by walking over the alkali, and, sick and weak, give out among these beasts of prey. The wolves do not commonly attack full-grown cattle, healthy and strong; but if a sick animal is too long dying, they quit waiting around and help him out of existence. On horseback once I met a gray wolf square in the path through the sage-bush. I've never forgot the moment we stood confronting each other, then gradually moved apart.

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"When the railroad was building I had charge of a station. One night a man, coming through with his team, had the luck to get one of his horses down in the creek. It was a cold night. The animal was gotten out, but died directly. The man mounted the other and came on to the station and wanted me to take a lantern and go up and secure the harness of the dead horse. I told him, however, I thought the wolves wouldn't get the scent the first night. Next morning I went up and found my mistake, for only a few glistening bones and shreds of leather told where the meat and tough salad had been eaten. From all appearances I judged five hundred wolves had attended the repast, which, as usual, had been eked out with some of their own number, while all the ground had been ploughed and cross-ploughed in the horrid mélée."

Another traveler tells his experience: "I was out on the plains with a friend hunting. We fired into a herd of deer and brought down one apiece. Smith's, though, went just over a knoll before falling, so that as we proceeded to dress our game we were out of sight of each other, but within call. It was about dusk. The wolves began to appear; they multiplied fast, getting bolder every minute, till I could hardly keep them a few paces off. I shouted to Smith, 'Hallo! any wolves over there?' The answer came back, 'Wolves! There's nothing *but* wolves.' Well, we each had as much as we could do to prevent the meat from being seized under our knives. Finally, having secured our piece, we gave up the remainder, which was pounced upon by the snarling, ravenous crew, and the bones scraped and crunched, even in the blaze of the fire by which our supper was cooking."

Nor are bears unknown. It is more than enough to know of these biding in secret, while for buffalo and antelope there is a general lookout from each passing train. The coming "through-passenger" will see neither, but so far they do not disappoint the watchful eyes. Their appearance, if repeated many times a day, never fails to create a sensation. Antelope are as yet quite numerous, but are oftenest seen flying from the train, perhaps just disappearing in a bank of morning fog, so that the exhibition is not all you could wish. Patience! My note-book and memory record that "this morning seven antelope appeared on the summit of a ridge to our left, distant thirty rods, singly outlined against the sky, taking no alarm, but watching us as curiously as we them."

One other animal deserves a passing notice. It is the cunning little prairie dog. My interest in these inhabitants of the Western plains began with reading "Marcy's Explorations," when little dreaming I should one day go over and give them a call. Just before arriving at Cheyenne there was a sudden excitement—we were passing a prairie-dog town. Scores and hundreds of their strongholds lay between the iron track and a near bluff running parallel on our right, each marked by its depressed circular mound of earth brought up in excavating. The plucky little canines, sitting on their thresholds, so to speak, bark vehemently at the approaching engine; and so accustomed are they to its regular passing, that many of them hold on, and when relieved believe, no doubt, that they have driven it away. It is extremely funny to observe those whose nerves fail them at last, turning over quick as thought and popping into their holes.

Many of these communities appear along the track; some have been deserted and the mounds are partly overgrown, as if the iron road had proved an inroad of civilization they were not prepared to accept. Here and there the petit wild dog's companion, the owl, posed stupidly at the opening, adds to the picture. The affinity between these feathers and fur has never, that I know, been explained. I incline to the opinion that the quadruped requires advice as to how he may get a living here, and the magnanimous bird of the staring eyes, emblem of wisdom in old Rome, forsakes his hollow tree to make himself useful in a hole in the ground.

Distance on these bare levels is very deceiving. The alkali bluffs, at a point beyond Green River, are eight miles from us; we should not have placed them above a mile. One feels like challenging creation to

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produce a more desolate spot than this Green River Station, once a noted point on the route, now notable for deserted houses and breakfasts of blue beef and unchristenable coffee. The plain is strewn with stones and pebbles, precisely like those of a sea beach, which have been worn by the friction of the tides. If this was once an ocean bed, it has risen above the power of re-submerging, after the proposed plan concerning the Great Desert of the East. Not the remotest sign of vegetation meets the eye anywhere. The buildings stand buttressed by alkaline rocks in fantastic shapes. Desirous of scattering the influences of civilization along my pathway, I spare a leaf from my note-book, and having penciled "Keep off the Grass," *a la* Eastern park, post it upon a length of fence which the railroad company has set up as a memorial. Nothing can exceed the comfortable assurance I feel that my "Notice" will be obeyed.

The little river is clearer than any we have seen for days, not excepting the Missouri, locally known as Old Muddy. The discovery of these Western rivers *as* rivers, was a discovery indeed. The average discoverer, acquainted with mountain streams that "hasten to the sea," would doubtless have taken them severally for a rather extended pool from the contents of Bridget's Saturday scrubbing pail, or a semi-liquid species of the double-headed snake of ye time of Cotton Mather, which, according to Whittier's rhyming, the eminent divine "rode down to Newbury town" to investigate a creature that pulled in opposite directions and progressed in neither. These waters are even more totally destitute of life than the air. It is an excellent place for tender-hearted fishers, who don't want to hurt anything—of whom I am chief. Fishing here obviates all necessity for bait, which would be a strong consideration with the frogs and angleworms.

All night long on the rushing train, all day long the same—on, on, on; yet for any change of scene you might almost as well have been operating a treadmill. The barrenness which was itself a novelty, ceases to entertain, grows oppressive, and threatens to become intolerable. The welcome given each trivial incident shows to what straits people may be reduced for change. Our conductor snaps open the door and cries, "Look out!" With thankful alacrity the windows are besieged, but nothing appears. Is it buffalo? What?—where? The train slackens speed for Lookout station. "Sold!" and forthwith a jury—a woman's jury—is impanneled (this being Wyoming, where women sit on the jury, and to some purpose, for they brought in Guilty of Murder the first man they had to deal with) to

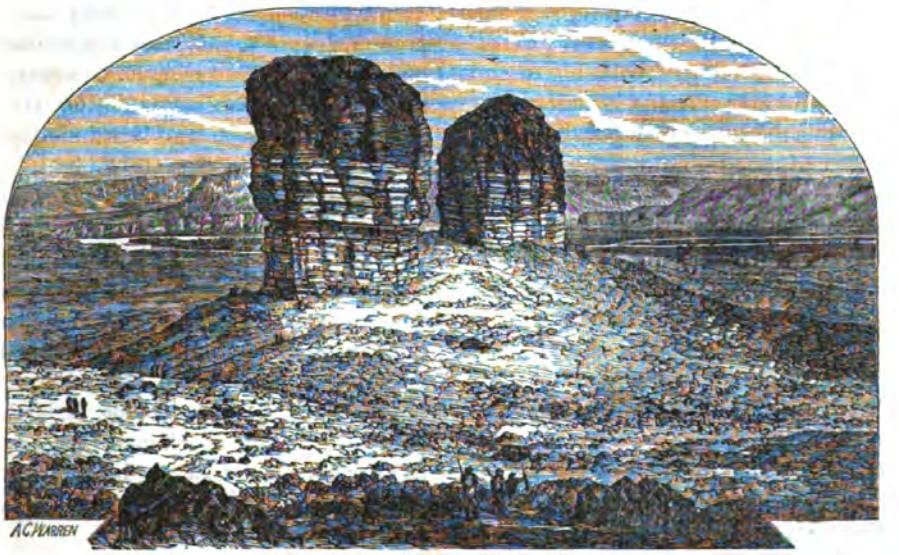


Fig. 3.—Twin Sisters, Green River.

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decide whether our conductor was innocently calling the station, or whether he employs this as a regular subterfuge for keeping the passengers from mummying. Verdict for acquittal, with a recommendation to mercy. Another time this joke was reversed. The official call is "Antelope." A yawner responds, "Who cares? Carbon, Alkali, You Bet—it's all one." A chorus of yawns and, presto! quite a little late, we become aware that we are not coming to Antelope station, so much as we are chasing a herd. Another merry-making, to the extent the materials will allow; then another relapse, broken by a youth who, from protracted gazing out at nothingness, springs to his feet with extravagant gestures declaiming, "Greeley—'Go West, young man, go West!' This, sir, madam, is 'What I know about Farming,'" pointing to some sagebush and more alkali.

From this the young man going West and the writer of meagre notes fell into conversation. He had spent nine years in Montana and knew the country by heart. First he had been a miner; then, having made some money, he established himself in town as a cattle trader, "and," said he, "I did well—was making a fortune as fast as any man could argue for, but—"

"You are returning to fill the empty pocket?"

"Or else empty the full one. I'm going back to sell out and go home to the old folks in Minnesota, where I've been spending the winter." He laughed, and his face was very suggestive. "Fact is," he continued, "I could stand it no longer. It seemed to me high time that style of living was broken up, at any sacrifice, so I started."

"And have enjoyed yourself, I see."

"Oh, but I have! The spelling-schools and singing-schools—well, take a fellow of twenty-eight, that haint had a taste of them things since he was a boy, and they do pan out—they pan out big!"

"*Why doesn't she go back with you?*"

He looked at me and clapped his hands delighted. "Wouldn't stir a step. Declared she wasn't going out of the world to Montana for any man. Too bad! for I could have made my fortune in five years."

"Why didn't you refuse to quit a good business for any woman—tell her you would go without her?"

"I did, and she laughed at me; she knew better than I'd do it."

A stranger's regards to the bride elect; may she be always wise-willed, and he never less loyal-hearted, and may they be happy.

"What is home without a mother?" Nothing every way, and having freely admitted this, I interrogate, What is a Pullman car without children? Certain I am that no mortal traveler can answer from personal knowledge. Emigration and visitation ever consist largely in the rising generation, the phrase having no reference to our ascent of the Rocky Mountains. Children with their tender influences have been preserved from the days of stage-coaching, outlasting the past universal bandbox, after the "survival of the fittest." On the long routes they are seen and heard all day, and the latter "oft in the stilly night." Our first example is five years old, the son of an English widow going to her friends in California. A pale face, not restored from the deeper pallor of sea-sickness, makes his indomitable spirit the more to be admired, as hour by hour he runs a rattling green tin wagon and red tin horse up and down and upside down the car, looking defiance out of a pair of bright black eyes at a lady who has dared to hint that her headache might be solaced by a discon-*tin*-uance of his equi-pedestrian feat.

There is a family aboard comprising parents, two small daughters, and a kitten. The animal, though of very ordinary physical and intellectual endowments, with hair only less upright than cactus spines, is patronized outside its little circle—fed, poor thing! on Omaha chicken, of a quality furnished for travelers' lunches, and which, had it been suffered to continue alive, might by that time have been a clucking hen with a brood of its own. A lady saturates her handkerchief at the tank and essays to combat the dust coating her forehead; the result, as indicated by the hemi-stitched linen, is appalling; she takes an attitude and exclaims: "Why *did* I undertake it?" folds her hands and resignedly murmurs over to her-

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self, "dust to dust." The ubiquitous traveler, who confides her determination n-e-v-er to come again, if e-v-er she gets home, is here also. She is always an amusing nuisance. All agree that we shall finally shake off a large testimony of dust against this region. A passenger inquires whether it is as bad in winter, and is answered by a veteran, "Oh, no." Disgusted traveler declares a winter journey the only endurable one. "But," quietly adds the other, "we were once snowed up ten days between Cheyenne and here, where we have now run in a couple of hours." Disgusted traveler prays that her flight may not be in the winter.

Cosmopolite is besought for a story of the plains; he denies any knowledge of any such. He was merely thinking about being here for the first time as one of an emigrant party, when Platte River had to be crossed by a ferry near Lone Tree, known as Shinn's. A preceding party quarreled with the proprietor, and ended by shooting him and destroying his raft, when they had gone over. Our informant's party arriving with a large "band" of cattle, met the emergency by constructing rafts of the wagon seats, and thus the wagons and contents were conveyed across. The cattle being forced to take to the water—it was summer, and the river swollen from the melting of mountain snow—were swept down some distance by the current and landed on an island, from which they were with difficulty gotten off.

At least, my sketch proves conclusively how devoid of variety and incident is a journey by rail across the plains. There is, however, I am bound to say, a bright side, and that I hope to present in a future number.

LAVINIA S. GOODWIN.

INSANITY IN THE UNITED STATES.

THE intelligent care of the insane, with a view to the restoration to health and society, is so recent that it may be dated, in the United States, in the present century. The time is even within the recollection of many now living, when faith in the curability of the disease became general, even among medical men. Upon the dawning of the belief that insanity was susceptible of cure, hospitals began to be built, for the two-fold purposes of custody and treatment; for, besides the difficulty of taking care of lunatics at home, it was found that comparatively few recovered. From this period hospitals began to be regarded as not only the best, but to most persons the only places for the insane. Hence an increasing demand for their accommodation; and though their numbers have multiplied largely, and have greatly increased in size, they are still inadequate to entertain all who knock at their doors and with piteous appeals seek admission. It is invariably found that when a hospital is opened for the accommodation of a given district, the applications for admission far exceed its capacity, largely outnumbering the statistics collected by the census-taker. The country seems suddenly thronged with insane people, and we are apt to be impressed with the belief that this dread disease is largely on the increase. But the probable fact is that no such increase really exists. It is not unnatural that, mainly out of family pride, the questions of the census-takers are often evaded, and the relatives of the unfortunate patient, seeing no benefit to come from revealing this "skeleton in the closet," keep it from observation. But, promptly, when an asylum is opened within their reach, free to all without pay, the curtain is drawn and they come forward with their afflicted.

That insanity does not increase, *pro rata*, at least in the United States, is proven by the census returns for the past twenty years. In 1850 this country had a population of 23,191,876, and a total number of insane and idiots of 31,397, or 1 in 378. In 1860, with a population of 31,443,322, there were 42,864 insane and idiots, or 1 in 733. And in 1870, with a population of 38,555,983, there were 61,909 of that class, or 1 in 623. In England, during the same period, there was an average of about 1 in 450; in Scotland, 1 in 460; in Ireland, 1 in 400; in France, 1 in 600; and in Australia, 1 in 524. These reports, if accurate, show a favorable condition in this country, as compared with that of others.

C. D. ROBINSON.

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WILLIAM J. MULLEN,

THE "PRISONER'S FRIEND," OF PHILADELPHIA.

THE organization of this gentleman is of fine quality. There is a predominance of the vital temperament, with a good proportion of the bilious, however, which gives prominence to the nose, well-marked lines to the face, firmly closed, thin lips, and much positiveness of character. In stature he is rather below the medium, while the chest and abdomen are large and rounded. His head is in good proportion to the body —slightly above the average size—and his brain has the double advantage of exhibiting great activity when the mind is interested, and of possessing the power to rest and recuperate rapidly.

His mechanical ingenuity and great perceptive power are shown in the engraving, by the width of the anterior portion of the head at Constructiveness, and by the projection of the head at the eyebrows; but no picture, not even a photograph, can fairly represent the vivacity displayed in the countenance, when he is engaged in conversation.

His mind is remarkable for its sympathy and sensitiveness. Probably a finer example of these qualities can not be found than may be observed in the head and temperament of this gentleman, and they are accompanied with a high degree of energy, de-

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rived mainly from the bilious element in his constitution, and so make him an efficient worker, as well as a man of feeling. He is keenly alive to every smile or frown, even a child's opinion will affect him deeply, and he must suffer keenly when opposed and maligned, as he often is by the vampires of justice, out of whose greedy hands he often plucks an unhappy victim.

His head exhibits no excess of either Self-esteem or Approbativeness; these organs are much smaller than Benevolence, which is as prominent an organ in the head as the faculty is in the character; but so deeply absorbed has he become in his work, and so zealous is he to be in perfect accord with those with whom he is in any way associated, that his work is an almost constant theme of discourse. This has, doubtless, been taken advantage of by his opponents, and may have caused a few well-wishers to underrate his motive, although his work can not but be approved by the philanthropical.

His sympathy is the one weakness in his business character. It was impossible for him to pass by the poor and wretched, to attend to a profitable business in which he might have accumulated a fortune; voluntary and single-handed benevolence, therefore, beginning with him, resulted in the creation of an office well suited to his sympathetic and philanthropic zeal.

The subject of this sketch was born at Lancaster, Pa., in the year 1805. At an early age he made his way to Philadelphia, where he became apprenticed to the jewelry trade, in which he rapidly rose, until, as a manufacturing jeweler and inventor, he was widely known by those engaged in the trade. It was for his invention of a process for the manufacture of gold watch-dials, in which he expended thousands of dollars and several years of time, that he was most widely known; and while engaged in this business, which had become the principal branch of his trade, he was limited in its extension only by the difficulty of procuring competent mechanics for such delicate and accurate work. To facilitate business, as he hoped, he removed to New York, and while there became interested in the subject of Phrenology, and was a subscriber to the course of lectures by George Combe, Esq., and an interested attendant upon them. At the close of the second course, it was proposed to present to Mr. Combe a silver vase, as a testimonial of gratitude and esteem for his lucid and elevating exposition of the new science; and a committee of four gentlemen was chosen to carry out this design. Every member of this committee of thirty-eight years ago, is now living, and all have been, or are now, men of wealth and power, each in his sphere. The subject of this sketch is, perhaps, more widely known than any other, and he is the only one who has not accumulated a fortune. He was delegated to select the artist and superintend the manufacture of the vase. This vase drew the prize of a gold medal at the Fair of the American Institute, in September, 1839, for its exquisite design and superior workmanship. Captain S. W. Dewey, who undertook the responsibility of raising the subscription of one thousand dollars for the vase, availed himself of the artistic skill and taste of Mr. Mullen in the production of a certificate of subscription of suitable design. His scheme was so successful, that all subscriptions were limited in amount, and much money had to be refused. The only lady subscriber to this testimonial was the wife of the late Hon. Horace Greeley, who sent word to Captain Dewey that she had a dollar she wished to go for that cause. When he called, she brought forth an old family keepsake, which she insisted upon his taking.* The ravages of fire reduced Mr. Mullen to the necessity of starting anew in business, and, not having experienced such advantages as he had hoped from his new locality, he returned to Philadelphia, where he was heartily welcomed by his old friends, and soon found himself re-established, with more orders for his watch-dials than he could fill promptly.

The liberal spirit of Mr. Mullen was early

* The silver of this dollar forms a part of the vase.

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manifested in his business, by the adoption of the co-operative system, a system which resulted in giving to his artisans from twenty-five to eighty dollars a week for working only eight hours a day; and this system was continued for more than ten years to the satisfaction of all concerned, and that, too, not in a business developed by the company, but one in which the invention of the American method of manufacturing watch-dials had the power of holding a monopoly.

The forms which his charity has taken seem to have been limited only by the variety of the objects which caused its development: the formation of a Temperance College, which trained six hundred boys; the establishment of a hospital for the sick; public factories for those out of employment; the collecting of money for those in immediate distress—in which work a distinguished clergyman said Mr. Mullen could raise a hundred dollars where he could get but one; visiting the sick in cellars and in attics, and in administering to their wants with his own hands and from his own means.

With the mass of material before one, it is difficult to refrain from reporting incidents in the labors of this remarkable man, that show how he pleads with a judge to read the affidavits that shall at length free the innocent; entreats a young woman, who has been dumped out of a cart at the prison-gate almost dead drunk for the seventieth time, to reform, so effectually, that she becomes the happy wife and mother she now is; fights with the liquor-dealer for water from the hydrant to make soup for the starving and gets the victory, or clothes an infant* that has been covered up in ashes by its mother to keep it from freezing—but space will not permit.

Mr. Mullen is an ardent lover of Nature. He is heartily in sympathy with everything living, loving, and blooming. He delights in rich, bright colors, green fields, flowers, birds, and songs. He loves a sweet, smiling face, and exerts such a magic influence over the distressed and the diseased, that he brings back the long-departed glow of hope and gratitude. He seems to be almost insensible to anything but the good in others, and it has been said of him, that he has never been known to speak evil of any one, except to state facts when necessary, to the end that justice may be done. In private conversation he exhibits more of the sprightliness, vivacity, and delight of a young lady, than of the long-faced seriousness that one would look for in a man who spends nearly all his time with the wretched occupants of prison-cells. It would seem as though a superabundance of overflowing happiness sought out the most miserably poor and needy upon whom to fall, or as though his admiration for the "human face divine" were such, that the lineaments of beauty could be discerned through the masks of crime and dissipation worn by the very lowest of the race.

The Parish Gleaner, of the Church of the Evangelists, says: "He could not rest at his business, however profitable, and listen to the wails of woe that came up from the filth and degradation of Baker and Small Streets and their surroundings. Relinquishing a business that was paying him ten thousand dollars a year, he went forth, with a resolute will, to heal this great public sore; and though some thirty years or more have since passed away, he is still at the good work."

The recent report of the Philadelphia Prison Aid Association states: "The whole number of persons for whom the agent (Mr. Mullen) has procured a release from prison since the commencement of the agency has been 40,869 persons. These were all court cases, and their liberation has caused the saving to the tax-payers of our city the sum of $442,739."

Certain significant commentaries by Mr. Mullen occur in the report, which should be added:

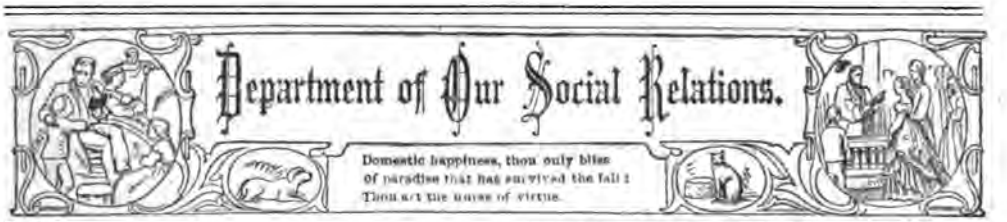
"Of the 21,727 persons committed to prison within the year, there were 69 committed for murder, or accessory to murder. All of these offences, with but one exception, were committed by persons who were intoxicated at the time, and who alleged that they were not conscious of what they had done.

* Five children were found in this condition.

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"The agent has found these statements to be literally true. It is true now as it has been probably at all former times, that nearly all murders which have come to his notice originated in the use of intoxicating liquors. At enormous expense this community maintains the institutions of civil and criminal justice for the repression and prevention of crime, while also supporting penitentiaries and other kindred establishments for punishing by confinement the infractors of the laws; and yet hundreds and thousands of dram-shops are allowed, almost unmolested, to deal out even on the Sabbath and to the youth of our city, that maddening draught which brings men and women, of all descriptions and positions in life, to a common level of degradation, and which acts as an universal and, we might say, the almost sole incentive to vice and crime. Why is it, that such a state of things is tolerated, under cover of law, in a civilized and Christian community? If we wish to discover something which beyond all else was adverse to our principles of morality and religion, and which outraged, in the extreme, our every sentiment of decency and propriety, could we possibly find anything so exactly corresponding to our wish —anything so entirely opposite to what we teach, and preach, and desire to exist, as the prevailing practice of using intoxicating liquors? Could we find anything so effectually instrumental as this in filling our prisons with parents, who leave their children in cheerless homes, shrinking unto death under the pressure of Nature's commonest wants? Would that we could speak with a voice that might influence our law-makers to suppress this monster evil, which is sowing the seeds of destruction in our midst, and plunging so many of our fellow-citizens into the abyss of misery and ruin."

JOHN L. CAPEN.



THREE CLASSES OF MEN.

AMONG the manifold differences which serve often in a marked degree to distinguish man from man, none is more striking or interesting to the careful student of humanity, in its varied manifestations, than the manner and extent to which men impress each other—commonly recognized under the name of *influence*, and signifying the power, more or less, which the mind and will of one man is able to exert over the minds and wills of others. Viewed from this standpoint, mankind in general will be found easily resolvable into three broad, distinct classes, possessing marked peculiarities, which are easily recognizable in their respective types.

He of the first class, for instance, may be met with any and every day in the streets of every city, town, and village—albeit he does not constitute every other or even every third man you meet. He is recognizable as a representative of the first or, as we shall call them, the positive class, at a glance while yet a perfect stranger, or ere he has uttered a word. His claim to be so considered is demonstrated in his walk, his general bearing, the set of his features while he is silent, in the tones of his voice when he speaks. Perhaps the first circumstance that arrests the attention of the observer in watching such a one, as he threads a crowded street, is the ease with which he effects his progress; the way in which obstacles that would impede the course of any other man are removed, and prove to be no obstacles at all; the instinctive way in which every one turns aside or makes way for him, as if he were a locomotive engine on a track and could not in the very nature of the case be expected to turn out for any one else, and this whether his gait be fast or slow, hurried or deliberate. Wherever he ap-

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points his path, through the crowded and bustling marts of commerce, or the surging throngs of pleasure-seekers, his way is cleared as it would be and is for no other man, and that without any apparent effort on his part. The hurried man of business dodges hastily to the right or left to avoid contact with one who he instinctively feels has no thought of turning out for him; the knot of idlers engaged in conversation, who have maintained their position and diverted the stream of travel for no one knows how long, part at once by common consent to let this individual pass through their midst; the dauntless company of young bloods who, linked arm-in-arm, stretch nearly across the sidewalk and sweep everything before them in their march, compelling every one else to dodge hither and thither, if not to turn off the sidewalk altogether, in the effort to get past them, even this redoubtable host is thrown into instant confusion at the approach of this unterrified and unterrifiable personage, who, without deviating an inch from his course, without a word or scarce a look, passes calmly through their broken ranks, being instinctively felt and acknowledged to be one of the fixed facts of nature, immovable as the hills, resistless as the water-courses, and before whom all must give way as a matter of course. It is the same on the cars and ferry-boats; it is the same everywhere. The portly gentleman, of deliberate movements, who, stationing himself in the narrowest part of the boat, calmly and complacently permits the smaller fry to wedge their way past him as best they may, or if requested to make way for passers-by, reluctantly yields an inch or so, and the next moment, by an apparently unconscious movement, regains it with interest, steps briskly aside when our subject advances, and allows him the utmost latitude for every movement. The little gamin who, with the utmost unconcern, keeps dodging in every one's way, as if with the intention of tripping some one, if possible, is careful to keep out of *this* man's way; and the market-woman, over whose basket a score of unfortunates have stumbled, to the damage of their shins, without eliciting more than the feeblest effort on her part to remove the obstacle, becomes suddenly aware of this man's approach and hurriedly draws it completely to one side or lifts it up altogether to get it out of his way. A general impression seems to prevail that there is but one alternative to getting as speedily as possible out of his way, and that is to be run down or run over, if not actually annihilated, and the alternative is taken as a matter of instinctive choice.

Follow him through the varied walks of life, at his home or in society, and we shall find that the same thing holds good here as elsewhere. As on the street, his physical personality makes way for itself by the mere potency of its presence, so here his intellectual personality makes itself felt as a force that can not be lightly set aside or disregarded, but must be consulted and conformed to in most cases. His nod of approval inspires fresh confidence in any project or the merit of any production, and sanctions it at once and most fully, while his emphatic "No" chills the ardor of the most sanguine, and an unfavorable criticism from him is dreaded and deferred to by better men than he, with whom his positive expressions of opinion, if not convincing, are at least deemed uncontrovertible.

Whence comes this wondrous power? What is the secret of the positive influence which men of this stamp, whether consciously or unconsciously to themselves or others, so undeniably exert over the opinions, wills, and conduct of those with whom they are brought in contact? We are speaking now of the genuine type of this class, whose power is inherent in himself, and is independent and irrespective of any factitious circumstances whatsoever; of any such concomitants as rank, wealth, personal appearance, intellectual ability or moral worth, each of which has its own appropriate influence, but is not, however, the influence of the man himself, as we are now considering him. That this is so, needs but a little careful reflection to perceive and acknowledge. *Rank* may provide a wider field for the exercise of personal influence, if the influence exist independently of rank; but it is not unfrequently the case that the highest rank bends its stately head in deference to the

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untitled, but more potent, will of one of our typical individuals, who rules the ruler—the latter being but the medium through which the stronger mind makes itself felt more widely. How many kings have been themselves most abjectly governed, and their kingdoms, through them, by the stronger mind of some energetic woman of this stamp, whose presence inspired that respect which springs from latent fear, and which is unhesitatingly accorded irrespective of moral worth, and whose imperious will, without any other aid or adjunct, has awed royalty itself into obedience. The weak-minded and ignorant may pay instant deference to rank, for the sake of the power they suppose to be inherent in it and inseparable from it, when they see the star or garter that announces it; but high or low, wise or simple, recognize and obey the power of one of nature's self-ordained rulers without the aid of any outward insignia whatsoever, save such as are by nature inseparable from the man himself. The same remarks apply with equal force to the influence supposed to be inseparable from wealth. The weak-minded man, who is possessed of a fortune, is never the real master of it; and those who seem to him to be most affected by the influence he imagines he is exerting through and by reason of his wealth, are really governing him, controlling and determining all or most of his actions, and disposing of his means as they see fit. Sometimes even the semblance of deference to purely fictitious influence is thrown aside, and his bondage is plainly enough visible to the world at large, if not to himself.

Beauty has been popularly supposed to possess unbounded influence in itself, an influence as lasting as the charm which is its cause. If this were so, then might all beautiful women and all handsome men be deemed born to fortune and success, as possessing the key to all hearts, and sure of accomplishing every desire and realizing every hope, by means of the gentle, but potent, influence of their own perfections. Then might they indeed look forward, as many of them mistakenly do, to a life of sunshine only, unmarred by a single cloud, and lasting as their beauty. But that this is not so, the pages of history afford us ample and conclusive evidence. Beauty in itself alone has no lasting power. It may charm and dazzle; it may even overmaster for a season, but must in its turn give way to every fresher, newer attraction. The wife or sweetheart who holds her husband's or her lover's heart by her beauty only, must be prepared to surrender it to the first comer whose beauty is greater than, or even pleasingly different from, her own. No, the women who have figured so prominently in history, and have been so successful in accomplishing their purposes, were not all beautiful, nor were any of them beautiful only. Many of the fairest of them have had rivals fairer, yet over whom they have triumphed nevertheless. No, the mysterious power we speak of is within and above mere beauty and quite independent of it.

Nor does it reside wholly in intellectual or moral worth. Mind is requisite to appreciate and be impressed by mind, moral worth by moral worth, and, to the great majority of this world's inhabitants, the oft-boasted power of intellect and uprightness, of themselves alone, that is, without other qualities to back them, would have no more effect than the sublime harmonies of the greatest composer would have upon the deaf adder, "that stoppeth her ear and hearkeneth not to the voice of the charmer, charm he never so wisely," or than the milder rays of the sun would have upon the earth, if the atmospheric medium adapted to receive and convey them to their proper destination were wanting. The wisest and best can not create emotions and capabilities in others; they can only call forth and arouse into activity those which already exist.

In what, then, does it consist—this mysterious power? Why, external considerations aside, should one man's approval be so much more desirable than another's?—one man's frown more terrible? one man's will more potent, more certain to be respected and acceded to than that of another man, who may be in so many respects a superior? Why is it that the mere approving nod of one man has a greater charm for us, a higher value in our eyes, than the most lavish commendation from others? Why is

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it that a mere look of disapproval or rebuke from one will weigh ten times heavier with us than the most energetic reproaches of another? Since we have shown that this influence has not its origin in wealth, worth, or beauty, in what, then, does it reside?

It is a question that might, and probably does, puzzle many minds, and has been in many respects an unsolved problem for generations past; but to the phrenologist the question is easy and plain of solution. To him the mystery is no mystery at all. The key to this wondrous power, so arbitrarily exercised by one portion of mankind over the rest, is found to consist in a certain harmonious balance of the organs of Firmness, Self-esteem, Combativeness, and Destructiveness. Any one of these may lead, but all must be well-developed; and there must exist a certain harmonious proportion among them. If any one is excessive, the charm is broken. An undue development of Self-esteem, for example, only produces overweening assumption and egotism, which are simply disgusting. Firmness, in excess, degenerates into dogmatic obstinacy, which is often mulish in its manifestations and meets with a mulish reward, viz., stripes and contempt; while excess of Destructiveness transforms a man into a savage, who, though dreaded for a time, is sure to be hunted down and overcome by the efforts of his fellow-men, organized for their own protection. But whosoever possesses these qualities in their just proportions is a born ruler, unanimously elected and acknowledged as such, and this for obvious reasons. His strong will, acting through his large Firmness, will none the less certainly and irresistibly govern and control, within certain foreordained limits, the weaker wills of those with whom he is thrown in contact, than does the moon influence and sway the mighty masses of waters that form the tides. His large Self-esteem imparts dignity and a sense of intrinsic worth to all his actions and opinions, which deeply impresses the minds of those in whom this faculty is weaker, and acts as a powerful stimulus upon their Approbativeness, even though they may themselves possess in a larger degree the knowledge, judgment, or moral excellence for which they give him credit, and, as they suppose, do him honor; while his large Destructiveness gives him executive force—the requisite sternness to impart that wholesome awe and dread of himself in the minds of others, which appeals so directly to their fears, and goes so far to bring them into, and maintain them in, a state of submission and obedience to his authority, and in concert with Combativeness, the necessary aggressive ability not only to hold what advantage he has, but constantly to contend for and gain new vantage ground.

Endowed with these three dominant qualities above his fellows, what wonder is it that he should unavoidably, and of necessity, be their leader and ruler in the physical, intellectual, or moral world, according as his other proclivities lead him? The wonder would rather be that he were not; and the only limit to the extent of his power will be the existence of the same qualities in an equal degree in an antagonist. "When Greek meets Greek, then comes the tug of war," and the contest of these mighty ones is viewed by lesser mortals with mingled admiration and dismay.

Turn we now to the contemplation of this man's opposite—the type of the second class into which mankind would seem to be naturally divided. He, also, is recognizable at a glance, upon the street as well as everywhere else. He is the man for whom no one thinks of turning out; *he* must dodge about, turn aside, look out, make way for every one else, and for all grades and degrees of greatness, or even littleness. Sometimes sensitive and high-toned, keenly feeling the constant slight put upon him, and only dimly comprehending the cause; sometimes low, mean, and servile; he is pushed, jostled against, set aside daily, hourly, constantly, by his equals or inferiors, oftenest by those who are beneath him in every respect; sometimes thoughtlessly, sometimes wantonly, because he lacks that mystic power which can compel respectful consideration from the rude and selfish masses of which the world at large is composed. He is the one whose opinions are never consulted, save perhaps as a mere matter of

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formal courtesy to be quietly disregarded; his views, prejudices, feelings, and actions are expected to conform to the more important and powerful wills of the self-constituted majority, which is a majority not of numbers, but of power; and whether consciously or unconsciously, whether slavishly and blindly, whether cheerfully and willingly, or reluctantly and with desperate resistance, conform he must and does, in some measure, more or less, externally if not thoroughly and fully, in small things if not in great ones, and this through that overwhelming power that knows no law—the power of necessity. Because just where he is weak his opponents are strong, and they make use of their strength to his disadvantage.

This class, though presenting many varieties of character, arising from the relative deficiency of one or the other of the three different organs, in all of which it fails to excel, may be divided into two general subclasses, the high and the low. The latter we can dismiss with a few words. With no sense of interior worth, because utterly worthless, as far as this can be said of any human being, they deserve their fate, because they are fitted for and could appreciate no other. Thoroughly subject, both inwardly and outwardly, to the will of others, they are nothing if not guided and governed; and are never so well satisfied as when, figuratively speaking, they feel the pressure of some firm foot upon their necks. Dependent upon others for their opinions, principles, rules of action, their very life, so far as life consists in active volition, when left to themselves they are but as the chaff which the wind drives about in every direction. Having no mind of their own, undecided, easily baffled and confused, they are safe only when under the direction of some strong mind, to which they attach themselves as instinctively as does a dog to the human being, whose ownership and protection seem so necessary to him, and to it they yield perforce implicit obedience. And yet when, through a combination of circumstances, or to further the ends of others, any of these feeble beings are vested with a little brief authority, or clothed with extraneous power, they are almost invariably the worst of tyrants. Their will, endowed for a time with the external means requisite to achieve its purposes, inconstant as the winds, exacts the same implicit and slavish obedience to the most contradictory and impracticable demands that they have been wont to render to the mandates of others, under penalty of the most direful vengeance that malicious and wanton caprice, armed with all the terrible accessories of power, can inflict. True strength is oftenest magnanimous; but weakness, clothed with a little brief extraneous power, is ever to be dreaded.

A complete contrast to these, in every respect save one, are those whom we have mentioned as the higher division of this class. These, while conscious of every deficiency in themselves, magnified tenfold by a morbid self-depreciation, have nevertheless a sufficient sense of their worth as *men*, if not as individuals, to prevent them from ever becoming servile in their obedience, base in their humility, and though feeling the strong influence of others as a power against which they can not successfully contend, and which, in spite of themselves, molds to a great degree their outward conduct, and to some extent their aims, aspirations, and even opinions, have nevertheless a large mental domain of their own in reserve, where they are undisputed lords in their own right, subject to no man's will but their own.

It is not unfrequently the case, moreover, and is a most happy illustration of the great law of compensation that pervades all states and conditions, that the feeblest of these, fully conscious of their own inability to suffice unto themselves, place all their reliance upon an All-sufficient Power, and rendering the same implicit and childlike obedience to the commands of God that they have been wont to render of necessity to the mandates of men, they evince a strength in their weakness, when it becomes necessary for them to decide between the service of men and of their Maker, that is incomprehensible to those who, knowing their general character, are ignorant whence this wondrous and unlooked-for strength is derived. Gentle and pliable to a fault on all

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ordinary occasions, quietly and cheerfully yielding up their wishes, desires, preferences, expectations—all, in fact, that pertains to them as individuals merely. When once a question of principle is involved, they become as adamant in their unflinching firmness, and this because, forsaking all reliance in themselves, they place their whole trust and reliance in the Omnipotence that sustains and upholds them; their whole confidence in the righteousness of their cause and the truth and justness of the principles they have to maintain. From the ranks of such as these have been recruited the purest, saintliest types of martyrs to truth and high principle in all ages.

The first class of men do not make good martyrs, as a general thing. Through the strong influence they exert over others, not so much by their words and opinions, perhaps, as by their presence, their strong, positive personality, they are seldom called upon to suffer martyrdom. Like Martin Luther, who was, judging from the accounts that have come down to us concerning him, an excellent representative of this class; though bitterly denounced, though often and terribly threatened, they contrive after all to die in their beds and in their own appointed time, like any inoffensive, unassuming mortal. Or if called, indeed, to the martyr's crown, it is generally won as is the soldier's, on the field of battle with the armor on, and the crown of martyrdom is not unfrequently twined with the laurels of victory. Occasionally it happens, however, that dreading his prowess, and knowing full well what the result of a contest would be, he is taken unawares, the opportunity of resistance is denied him, and he is hurried by his impatient foes to the scaffold or the stake. Even then the nature of the man is not changed or subdued; there is an interior self-consciousness of worth and superiority to the utmost malice of his enemies, manifested in his look and bearing, even at the supreme moment, that profoundly impresses all who behold him, and causes him to appear a conqueror in the midst of defeat and death. Not so they of the second class, who approach nearer to the ideal type of martyrs. They go to their doom like sheep to the slaughter, meek and uncomplaining, with no shouts of triumph, but only murmured prayers for courage and support, yet with a calm firmness through all, that comes not from within, but from above; and in the moment of agony their thoughts are not with their enemies, neither have they any rejoicing exultation that they are in the right; but with every thought turned away from themselves and the world and fixed upon the only source of strength for them. In their utter nothingness, they are made everything; through their very feebleness, they are made mightier than the mighty.

These two classes of men correspond to, and may be typified by, the positive and negative poles of electricity, or the magnet; and after a brief survey of the extent to which men lead and are led by others, it would seem as if one half the world were delivered over to the guidance and dictation, good or bad, of the other half, and that a man must either lead his fellows or be led by them, that in the hosts of mankind all were either leaders or followers. And to some extent, and within certain providential limits, it is even so; though not to the extent that might at first be supposed, from the view we have already obtained of the subject. Because, in the first place, influence, however arbitrary and one-sided may seem its exercise, is, after all, in its subtler tracings, a reciprocal matter to a greater extent than appears upon the surface, even negative poles having their relative place and power with regard to the positive; and secondly, because the two classes, already depicted, do not constitute in fact the whole of mankind; and this brings us to the consideration of the third or neutral class.

The typical man of this class is as easily recognizable as either of the first two, and yet far less likely to be marked for recognition than either, simply because he has no remarkable peculiarity about his appearance or actions. He does not impel every one by the magnetism of his presence to turn aside and make way for him, nor does he turn out for every one else; but goes steadily on his way, promptly turning aside, and yet no further than is necessary, for the strong, and unconcernedly setting aside the

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weak, intent on his own business, paying but little attention and evidently attaching no very great importance to the opinions or affairs of others. Without exerting any marked personal influence upon the actions or opinions of others, he is not very susceptible in his turn to their influence; and while not difficult to move or bend where it will be conducive to his advantage, he is not remarkably pliant or yielding where his own interests are not concerned. While he rarely attains the dignity of martyrdom through his staunch adherence to any party or principle, he is by no means an easy tool in the hands of others. His leading faculties are so balanced as very nearly to neutralize each other. His Firmness and Self-esteem are full without being very large; while his moderate Approbativeness renders him, if not indifferent, at least not unduly sensitive to the opinions of others, and certainly not disposed to sacrifice his own views, opinions, and interests, or to incommode himself very seriously to avoid their disapproval or gain their commendation. He has Combativeness and Destructiveness enough to defend himself with vigor, if need be, and protect his own possessions, though he is but moderately aggressive. Apparently he has no weak points, and is very well adapted to preserve the balance between the two first-mentioned classes; acting as a natural breakwater to the violent aggressions of the first, and as a defense, in some sort, to the second; the spectacle of his calm indifference to what seems to them the overwhelming power of the first class, inspiring oft-times in the breasts of the second somewhat of courage and confidence, nerving them by the force of example to some degree of resistance to the force that would otherwise carry them away entirely, to the peril of their individuality of purpose and action. If not the majority, this third class constitutes at least no inconsiderable proportion of mankind, and, like mortar, are extremely useful in filling up chinks and keeping apart warring particles that might otherwise collide, with disastrous results.

We have them all now before us—the positive, negative, and neutral, or three independent classes of men, as illustrated by their respective types, to which common observation will demonstrate that all the different classes of mankind may be referred. Of course, the modifications of these characteristics, as to degree, and the modes of their manifestations, will be varied in different individuals and under different circumstances, but will be at all times sufficiently marked to be recognizable, and to enable the reader to determine to which of the three he belongs. And now a parting word to each.

To you of the first class, we could preach a long sermon on the obligations and responsibilities that devolve upon you in consequence of the mental constitution with which you have been endowed; but will content ourselves with this much of warning and admonition. Your besetting sin, which you must be ever on your guard to restrain and control, will be the love of dominion, the desire and inclination to domineer, if not to tyrannize, over others in some form; to govern, control, or direct their outward actions and behavior, or to mold and influence their views and opinions, intellectual or moral; in other words, to be the self-constituted critic and dictator of all that pertains to the inner or outer life of others. Finding it such an easy matter to have their own way, men of your class have but little regard for the opinions, wishes, and interests of others, when these clash with their own; and from the very deference habitually yielded them by others, they grow exacting and often overbearing. You will need, therefore, to cultivate more thoughtful regard for the wishes and feelings of others, that you may be ever ready to accord them by courtesy what they are reluctant, through fear or sensitiveness, to demand of you as a right. Cultivate especially that magnanimity of soul, in small things as well as great, that should be the redeeming trait of a character like yours; and strive rather to be perfect master of yourself, than to exercise mastership over others. Look closely and rigidly into the motives that underlie your prompt and effective action; and as your views, opinions, assertions, and commands carry such weight with them, be sure that they are based on truth, justice, and sound principle, and that they are really

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conducive to the welfare of those whom they are designed to influence, and not merely calculated to advance some selfish purpose of your own. Let the fact that nine-tenths of those whom you meet will credit you with being right in your views or assertions, whether you are so or not, only stimulate you to guard more sacredly the trust that such confidence imposes upon you. You are destined, by your very organization, to be a power that must be felt, more or less extensively, for good or evil; which it shall be, rests for you to determine. Remember that the actual possession of the mental and moral worth, for which all are ready to give you credit, is all that stands between you and true greatness; therefore strive to attain to it, and *be* to the full all that you now seem.

To you of the second class, who are all your life brow-beaten, baffled, and set aside, your most cherished projects ruthlessly overturned, and your hopes and desires set at naught by those who are stronger than you; you who shrink instinctively from self-assertion, yet yield to what is, after all, the mere self-assertion of others, an outward deference, at least, that perplexes and often vexes you, when free from their controlling influence you come to think it over; you who are always and habitually waiving your own purposes, views, and preferences in favor of the projects and prejudices of others, and yet for it all reap seemingly no reward, save the occasional loss of self-respect; for you we have much sympathy, much consolation, and even encouragement to offer. For in you, also, are the elements of greatness of character in a higher sense. From your ranks have sprung some of the purest, sweetest, most exalted souls that have ever lived, and died unappreciated, sometimes almost unknown by their contemporaries, yet are revered by posterity. You have furnished by far the largest accessions to the "noble army of martyrs;" and many a noble mind that has lived and died in obscurity, unknown and unfelt, because lacking that power of self-assertion that would enable him to impress those of his day and generation, has nevertheless exercised an influence above and beyond the highest degree of mere personal influence, which, dying not with him, because not dependent upon his presence for its power, has blessed generations long after the world has forgotten what manner of man he was as to outward appearing, if indeed it ever knew.

Take courage, then, ye feeble ones, true saintliness is not beyond your reach; acquit you like men; be strong in a Strength not you own, and therefore available for your every need. Your greatest danger, as your greatest failing, will be a tendency to overvalue the opinions and authority of others, and to make undue sacrifice of self-respect, if not of principle, in their behalf. Therefore, transfer your allegiance from man, whose power is but for a time, to Him whose mercy is forever, and you are safe. In the formation of the highest type of Christian character, you will have no stubborn will, no perverse opposition to the dictates of your higher nature to contend with; but, on the other hand, you will be liable to an infirmity of purpose against which you must be ever on your guard.

To those who constitute the third class, we might naturally be supposed to have but little to say, since they have neither failings to inspire sympathy and commiseration, or great and terrible qualities to excite awe and dread. What they may fail to demand on the score of quality, however, they may yet claim on the score of numbers; since, if they do not constitute the majority of the world's population, they certainly approximate it in this country, at least, where they are steadily increasing. They are either the most estimable or the most despicable of the three classes we have named, according as their mental poise is attributable to the steady adherence to high and noble principles, which will not allow them, on the one hand, to oppress or domineer; nor, on the other hand, to sacrifice either dignity or principle to the force of circumstances or the pressure of influence, or as it proceeds merely from the apathy of cold, calculating selfishness. We would therefore suggest to the representatives of this class, that while justifiable and commendable in avoiding the two extremes between which they serve to mediate, there is yet some danger lest they

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fall into that lukewarmness of character, so to speak, that is more intolerable than either, and which would lead us to exclaim, Would that thou wert either hot or cold!

In presenting the characteristics of these three classes of men, we have described them as they manifest themselves instinctively and independently of the influence of education, by which they may be modified almost beyond recognition. It is sometimes the case that the conduct and bearing of two individuals, one belonging to the first and the other to the second of the classes above mentioned, may be so nearly alike, either in their mutual concession to, or defiance of, each other, that there may appear to the casual observer to be little or no difference between them, certainly nothing to indicate that they are to be referred to such widely different classes. But it will be found, on closer investigation, that in either case the actions of one spring spontaneously from, and are in accordance with, his very nature; while those of the other are, consequently, in spite of, and contrary to, his natural instincts, more or less forced. *This* man is courageous and boldly defiant, because, with his large Combativeness and Destructiveness, as incentives to belligerent action, and his large Self-esteem to inspire him with plenty of confidence in himself, he can not well be otherwise; *that* man, with Combativeness and Destructiveness inadequate of themselves to sustain him, with a host of doubts distracting his mind, and his large Cautiousness sounding the alarm and urging instant retreat, yet, through Conscientiousness or Benevolence, forces himself, in spite of all, to stand his ground and present as dauntless a front as possible; nay, even to do battle in defense of some person or principle dear to him, while every physical and mental fiber in his being quivers with excitement at the powerful strain laid upon them. This one holds tenaciously to his purposes and opinions, because, by reason of his large Firmness, the hardest thing for him would be to give up or yield in anything; and in standing firm he but follows the bent of his strongest inclination; that one, with every instinct prompting him to affable or timid concession, compels himself to maintain firmly, as a matter of conscience or self-defense, a principle, or course of action, of whose truth or necessity to his own preservation, natural or spiritual, he is convinced. Again, that man defers with the utmost readiness and courtesy to the wishes and requirements of others, because it is natural and therefore agreeable for him to do so; this man, actuated by a principle of justice, duty, or philanthropy, bends his stubborn will into compliance with the desires or commands of others, at what cost to himself He only knows who sees and aids the struggles of men to overcome their ruling evils.

Moreover, education affects these characteristics so much as in the end to transform them altogether, and almost to give rise to another, a transitional class, that should comprise those who, starting from one class, were being transformed into very fair representatives of another. And yet, properly speaking, the innate, essential character of any man, that with which he was born into the world, can no more be transformed into its opposite, by any amount of education, however much its modes of outward manifestation may be modified, than can his individuality or identity as a man be changed to that of some one else. The born ruler, however much the education or circumstances of his life may serve to repress or control his tendency to govern or command, still retains within him the qualities that fit him to assume the charge and direct the affairs of others, a sense of competency and an eagerness to assume responsibility, which an emergency will bring to light and develop into full activity; while the true representative of the second class will never attain to more than the ability to protect himself from the encroachments of others when necessary, and a just estimate of their value; and all the influence he can exert over them, however great it may be, will be by means of the truth as a weapon acting upon their reason and comprehension, and not by the force of his will, through the power of intellectual and moral conviction, not his own personal magnetism; and any attempt on his part to govern by any other means than these, will only result in mortification and defeat.

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Each of these three classes has its place to occupy and its distinctive use to fulfill. The first are admirably adapted to grapple with and solve the many hard problems which natural or social science every day presents us for our consideration; to meet, subdue, and govern the turbulent elements of society or the adverse powers of nature; the second, by their pliant, yielding disposition, and their instinctive appeals to reason, rather than to force, are well qualified to ease the machinery of social life in its course over rough places, to modify jolts and jars, and in many ways to pour oil upon troubled waters or rusty hinges; while the third class act, as has been shown, as a mediating influence to preserve the balance of power between the first two, and prevent either from going to excess. While each, then, should strive to regulate his character, by modifying his excesses and making up his deficiencies as far as he is able, he should recognize and feel the importance of the place he may fill in his own way and sphere, and, without aspiring to be any one else but himself, sanctify and make the most of every faculty he possesses, without seeking to change or eliminate any, and he shall have, through time and eternity, the blessing of a world that through the right use of his own powers, whatever they may be, he has helped to benefit and bless.

ALTON CHESWICKE.

COUSIN ARTHUR'S STORY.

"DO you believe in broken hearts?" I said to Arthur Roberts, one of those frank, noble specimens of manhood that are rare enough to be highly valued. After five minutes' silence, in which we had both been looking thoughtfully into the bright fire that burned at our feet, lighting up the plain, but comfortable, sitting-room of Uncle Roberts' house.

"Not exactly," replied Arthur, "and yet I do believe in what is usually understood by the term, 'broken heart,' in the terrible reaction of affections sent back in a cold flood of disappointments upon the heart, checking suddenly the well-springs of hope, shattering in an instant the creations of many a day, till slowly, but surely, the foundations of life are sapped, and disease and death follow. I believe in it, not because Irving has spiritualized the thought in his pathetic story, nor yet because it seems reasonable that it should be so; but what a man sees with his own eyes he is hardly at liberty to disbelieve."

Lost in thought, I made no reply till Arthur broke the silence.

"Do you remember Ruthie Russell of our childhood?"

At mention of the name, a picture arose slowly, but distinctly, from the shadows of memory.

"Ruthie Russell? Why, yes, that little fair-haired girl that used to come over from Caleb Russell's to play with us. Where is she, what of her?"

"She is in her grave."

Arthur's voice, always deep-toned and sympathetic, was husky with emotion. "And," continued he, "the daisies never blossomed over a truer, nobler heart than hers. You know I never had a sister, but I believe I loved Ruth, as I should have loved such a relative had the blessing been mine. From childhood we grew up together, and whatever one enjoyed, the other usually had some share in. You do not perhaps know that Ruth was only an adopted child of Mr. Russell. Taken when a mere infant, she was reared as tenderly as an own daughter could possibly have been, and enjoyed every indulgence and luxury that any child could reasonably expect. She was not sentimental, at least not in the obnoxious sense of that word; had a rarely philosophical mind for a woman (in all due deference to the sex be it said), and evinced such vigorous natural thought, and such felicity in its expression, that I used to fancy her career would be one of letters.

"We spent two winters together at Mr. B.'s Seminary, and here Ruth shone pre-eminently as the poet of the school; not

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a mere stringer of nonsensical rhymes, in which bad melody cloaks over the want of thought; her conceptions were vigorous, her rhythm good, her style excellent if not faultless. Yet though her mind was poetical, it was at the same time mathematical —an unusual combination, I have sometimes thought. I see yet the look of blank amazement on Mr. B.'s face when Ruth would go to the blackboard and talk us all down in geometry. In spite of her sex, we all naturally enough looked up to her, for if she reigned a queen, she concealed all consciousness of her sovereignty, never displaying when it could be avoided, a superiority that we could at least honor if not emulate. The workings of such a mind as hers was a wholesome sermon on the equality of the sexes; and if the dose was a little hard for some of the boys to swallow, they gulped it down as best they could, and said nothing. For myself, I was too closely allied to Ruth, by friendship and long association, to be ever envious of her success. Indeed, no man capable of appreciating the noblest attributes of the female character (for she was truly feminine), could know Ruth and not love her. She might have been naturally rather impulsive, but her sensible, even-poised mind was the governor that regulated so well that exquisitely-molded and finely-wrought mechanism.

"At sixteen, through the malice of a jealous enemy, she discovered for the first time that Caleb and Mary Russell were father and mother only in name. This was a terrible shock to her sensitive soul—how great they only can know who have had a similar experience; but she withstood it with a wonderful firmness that surprised us all. By some financial mismanagement Mr. Russell lost the greater part of his dependence; and Ruth, like the noble girl she was, insisted on supporting herself by teaching.

"I hardly think this occupation could have been congenial to Ruth, with her fine taste and poetical temperament, but she succeeded in it as she did in everything else she undertook, and was appreciated even by those who were quite unable to understand thoroughly her noble nature. The children in her school looked up to her as to an oracle. As illustrative, I remember riding across the country on some business for Uncle George, one summer, when I found myself in the vicinity of Ruth's school. 'I will call on her,' I thought, but before reaching the school-house, I met the children on their way home, armed with books and baskets.

"'How do, my little fellow,' I said, accosting one of the smallest urchins in the straggling line, a bright little chap with a very dirty face; 'can you tell me who teaches your school?'

"'Miss Ruth Russell, sir,' was the inquisitive reply, made in a tone that seemed to say, 'What business is that of yours?'

"'How do you like her?'

"A stare was the only answer.

"'Is she a good teacher?'

"'A mighty *smart* one anyway,' sung out the boy; 'she knows more'n the book.'

"But to the later events of my story. The vacations of a district school are not short. These Ruth spent at home. How much she seemed to enjoy them. Mrs. Russell was growing feeble, and allowed the cares and hospitalities of the household to devolve on Ruth, and not ungracefully did they sit upon her. But I must ask you again if you remember George Newlin, only son, though not the only child of Isaiah Newlin? They live about two miles up the valley in an old-fashioned, but beautiful place, which has descended from father to son for several generations.

"The aristocracy of the Newlins, if I may use the term, was neither that of wealth nor intellect, but seemed to originate in a detestable family pride, which fostered the idea that the Newlin name was a little more respectable than most of the family names in the neighborhood. They had, it is true, some pretensions both to wealth and talent. Isaiah Newlin had, I believe, been a member of the Legislature of his State, and was in some departments of scientific research quite a student; but George at least had inherited none of his father's literary proclivities, and the educational advantages of the children, as not infrequently happens in such cases, had been nothing more than a regular attendance at the public school, topped off by

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a year at some academy. From an acquaintance, not intimate, with George Newlin, I should judge that his mind was unusually sluggish, and being timid, he bore the honors of early manhood quite awkwardly. George's sisters and Ruth had visited each other for years, and were, so far as my knowledge extends, congenial friends, though I am quite certain that in solid attainments, culture, and native refinement, Ruth was far superior to these scions of the Newlin stock. Among the earliest instincts manifested in George, was his partiality for Ruth, which feeling, strange as it may seem, was reciprocated by Ruth. Her ideality must have invested him with positive virtues not discernible by other eyes. I am not speaking with the prejudiced mind of a wounded friend or a rejected suitor. I loved Ruth more tenderly, perhaps, than many a lover does his adored one, but I never thought of wooing her. Our affection was more that of brother and sister, or at least was only so acknowledged to ourselves. I was her confidant, the only male friend to whom she revealed this pure passion of her heart; and while feeling then, what I saw so clearly in the later developments, the wide disparity in their natures and force of character, I remember, with almost reverential admiration, her pure, enthusiastic devotion that could apologize for every defect, excuse every weakness, and magnify the few noble traits of a character whose noblest seemed its love for her.

"Months rolled by. George was always attentive in his own way, and Ruth was affectionate and happy. Up to this time the course of their love had been but little ruffled. I am inclined to think that George's sisters had always secretly been opposed to the intimacy, but having no plausible objections to offer, had only shown their disapproval in small slights and offending coolness. When the time came for an avowed engagement, the parents may have filed objections, but such were never made known to Ruth, who understood the whole arrangement to be satisfactory. They were to be married in the early spring.

"The affianced life of a few months which followed was one of busy care, but of apparently exquisite happiness to Ruth. She seemed to be ever bright and joyous, looking forward with radiant hopes to the future, but asking in the present for nothing more than she possessed.

"But there came a fearful reaction. For causes not known, George's accustomed visit was not made. Another period of the usual length passed; no letter was sent, no intimation given. Finally, in her trouble Ruth wrote for an explanation, which received no answer. The great gulf of silence lay between them cold and bitter as death itself. The roses left her cheek, and the settled hue of despondency lay upon her brow. I did everything in the power of one human being to avert or break the force of the withering blow that I saw was descending with fatal aim. I went to George myself with the request that her letters might be returned to her. He replied agitatedly, but with seeming heartlessness, that they had been already consigned to the flames. Society saw, chattered, and gossiped in its unfeeling way, which only aggravated Ruth's despair. God alone knows the anguish of a heart like hers, wrenched suddenly from its fondest earthly anchor. Before many months the reason of George's desertion was apparent. He was wooing another, an acquaintance, I can not call her a friend of Ruth's—a wily woman, who had insinuated herself into Ruth's confidence, and must have known with tolerable certainty that George and Ruth were engaged. The meanness of such a nature I despise too much to dwell on. Suffice it to say, that this new love of George Newlin had no attractions, either of mind or person, to compare with Ruth's. Her father, however, was wealthy.

"I could not yet believe that the heart of man or woman could be so utterly destitute of feeling. By dint of a dogged perseverance I succeeded in securing one interview, the last and only one after the estrangement. It did no good, and must have been painful to both. George gave no satisfaction, and after this Ruth's courageous spirit seemed utterly broken. She went into school again with a nervous determination to live down the desertion, but the

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weight of insulted love crushed her to the earth. Loving and sympathetic parents, kind and devoted friends, a strong mind that said: 'I have done well in escaping such a union,' alike were unavailing.

"Her health failed; a slow, lingering illness followed, in which her pure spirit seemed almost disenthralled from the suffering body, so angelic and free from earthly passion did it seem. She never had a word of censure for her faithless lover. She used to speak with just the faintest tinge of regret of her unaccomplished desires to do good — her tender longings to watch over the declining years of her adopted parents, but in the clear tones of prophecy she would add: 'God's judgment is better than ours. His love is infinite. It is best.' The roses of early June, that adorned the festivities of George Newlin's wedding lay in peaceful beauty on Ruth Russell's bier. The slavish creature of an idle fancy or of worldly wisdom, or a cursed love of gold—the sainted bride of Heaven, let the world judge between them."

I looked up through blinding tears to see that Arthur's cheeks were flushed, eyes wet, and lip quivering. It seemed as if the fearful shadow that had settled so heavily on Ruth Russell's life had fallen for the moment on ours.

"'Tis a sad, sad story," I murmured, "but are there many such?"

"Many?" replied Arthur. "I do not know—I hope not many such; but I have no reason to believe the case an exceptional one, though not often the consequences are so speedy and can be traced so certainly to the primal cause. The world calls it weakness and suicidal folly. I can not see it so. It was a fearful mistake, as it proved, for Ruth Russell to lavish her love on such a man as George Newlin; but that very constancy of affection would, under different circumstances, have been the crown of her womanhood. But so long as men or women love one, and then marry another for wealth, position, or any minor consideration, so long will there be such sad, unvarnished tales as this to tell. Over such criminality God and the better sense of humanity sit in fearful judgment." ANNIE F. BRADLEY.

ROBBIE'S WHEELS.

THE active invention, yearning for occupation, and vivacity of an intelligent urchin, are well illustrated by Olive Thorne in the following sketch, which we take from *The Christian Union*.

"Mamma, I need a pair of wheels," said Robbie, one day.

"Um," said mamma, who was busy, and didn't want to talk.

"Where can I get a pair?" asked Robbie.

"I don't know."

"But I want them, mamma."

"What for?" asked mamma.

"Cause my others are too little."

"Well;" said mamma, who didn't think a pair of wheels was any great matter to make a little boy happy. "We'll ask papa."

So that night when papa came home, the request was made, and the next day when he went to the factory he told a man to saw out a pair of wooden wheels, and at noon he took them home.

Robbie was delighted, and rolled them around a little while. Then he came up to papa.

"When can you make me an axle, papa?"

"Why, who said I would make an axle?" asked papa.

"But I need one to hold my wheels together?" said Robbie, earnestly. Papa couldn't resist that logic, nor the pleading little face, so he went out to the barn and got a piece of hard wood, sawed it off the right length, whittled it into a very nice axle, put the wheels on it, made a pair of pegs to hold them on, and handed it to Robbie.

He rolled it around the floor a little while. Papa went away, and mamma was busy again.

"Mamma," said Robbie, at length, "a handle's got to be whittled, big enough to go into a hole that's got to be bored in the axle."

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Mamma said nothing.

"I need a handle," Robbie went on insinuatingly, "to draw it by. How can I draw it 'thout any handle?"

"Can't you tie a string on?" asked his mamma.

"'Twon't go straight, 'n 'sides, carts don't have strings," he went on, indignantly; "they have thills 'r else a pole, 'n I need a pole, I do really."

"Well," said mamma, "I can't make a pole to go in the axle, but I have a thin stick that I'll tack on to the axle, if that will do."

After some hesitation, in consideration of the well-established fact that mamma couldn't whittle—early instilled into his mind—Robbie decided that it would do. So mamma fixed that, and went on with her work, sure that now Robbie would be happy.

But alas! in ten minutes there came an earnest little voice at her elbow.

"Mamma, who do you sink can make me a box to my cart?"

"Oh, dear! isn't that cart done yet?" asked mamma. "I thought that was all fixed."

"'Tan't a cart 'thout any box," said Robbie; "'n I can't draw anything on it, 'cause it slips right off."

That was unanswerable again, so mamma got up and hunted around till she found an empty cigar-box, brought out her paper of big tacks, and tacked it on. She then sat down with a sigh of relief.

Now for some time Robbie was quiet. He drew the dolly till he got tired, and then a new idea popped into his head.

"Mamma, who can fix me a seat to my cart? who can?"

"Goodness! what do you want a seat for?" asked mamma.

"'Cause I thought of it, 'n dolly's too down low 'thout any seat."

"Put one of your red blocks in for a seat," suggested mamma.

The red block went in, and peace once more descended on the family—for the space of five minutes.

"Mamma, I guess I'll harness up my Christmas horse to this cart," was the next idea. "How can I harness it up?"

No reply from mamma, discouraged.

"Won't you tell me how I can?" (pause for reply.) "Won't you (pause) tell me (pause) how I can?"

"Dear me—I can't harness horses," said mamma, "you harness it yourself."

"But I need to have a wipple-tree made," said Robbie, earnestly; "like papa's buggy."

"Goodness, Robbie! I'm not a buggy-maker," said mamma, in dismay.

"But it's just as easy—not a reg'lar one—just a stick fixed in the middle, you know, 'n then a harness, 'n a pair of lines—"

"But you know I can't whittle," said mamma, appalled at the way things were piling upon her.

"I can find a stick just 'bout right," said Robbie; "'n you can make the harness out 'o string, like the next door boy made for his kitty."

"Dear me! I'm not a harness-maker either," said mamma.

"But I can show you," said Robbie with lip beginning to quiver. Then mamma remembered that the little boy had no one to play with but his mamma, so she put up her work, got out her string and knife, and went to work under Robbie's delighted direction.

She made a wiffle-tree (after a new fashion), and tied it on. She made a harness and a pair of lines, that Miss Dolly could hold (if her hands were pinned together). In fact, she made one little boy supremely happy for one day.

But as he was going up to bed, he said earnestly:

"Mamma, I'll have to have two fours ot wheels to-morrow."

"Mercy on us!" said mamma, aghast; "what for?"

"To make a new freight. I need a new freight to my train."

THERE can be no greater blessing than to be born in the light and air of a cheerful, loving home. It not only insures a happy childhood—if there be health and a good constitution—but it also makes sure a virtuous and happy manhood, and a fresh young heart in old age.

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True philosophy is a revelation of the Divine will manifested in creation: it harmonizes with all truth, and can not with impunity be neglected.

WRITING AS AN ELEMENT OF EDUCATION.

THERE are very few men who have positively discountenanced the use of writing in the education of youth. Milton did; but he not only lived in a different stage of thought from ours on educational problems, but impugned part of his own training. Its place in modern education must, of course, be determined in the light of modern thought, and in harmony with the rational demands of the best methods of training youth.

These methods are a subject of most earnest study by all true instructors, and while there is much of error held in regard to them, unquestionably great advances are being made toward the useful and true in them. It is a mistake no doubt to attempt to make education too easy or too rapid, for in this there is great danger of rendering it superficial. Certainly it is desirable that education should be made easy as far as it can be done consistently with thoroughness. Any attempt to do this is laudable; for any gain in this direction is a saving of an invaluable amount of time, and thus virtually a lengthening of life. But we can easily see the danger ahead here. If by making our system of education easy and attractive, we detract from its thoroughness in any degree, we are, at least, exchanging a known advantage for a questionable one.

There is nothing so common among reformers as self-deception. They see the faults in old systems, and easily persuade themselves that almost any change would be for the better. They espouse the cause of their new plans with all the enthusiasm of partisans, forgetting that the first thing, as the celebrated Turgot has well said, is to invent a system; the second, to be disgusted with it, that is, to try it as dispassionately and as severely as we would if it were another man's. This is why we have had so many vicious and short-lived systems of education proposed, sometimes practical, and why we shall have more of them.

Archbishop Whately has examined quite exhaustively the advantages and disadvantages to the student that come of writing, but has given no very positive decision for either side. He seems to incline strongly, however, to the side of the advantages, and his eminent authority should be well considered. Some cries come from outside the colleges for less writing; for, say the complainants, we have writers enough, and if we need more, the necessities of the time will create them. But they fail to see the object of writing in education, evidently. It is not to make writers, but to train the mind; and it enters no more as a specialty into a common education than Algebra does. It is true it is designed to meet a want, but not to train for a profession. If it does indirectly afford a means to this end, so much the better. I think the experience of all will testify that those who have an inclination to write, will write, whether well or ill; and if their early education has fitted them in any degree for this, the country is certainly a gainer, not only in having better things said, but having them said in a better way; for a man can no more write than make a pair of shoes without learning how.

The amount of writing usually required in colleges, measured by what I think its uses are, is remarkably small. In some colleges no direct attention is given it at all. Of three colleges I have been connected with, one required no written work except an occasional written examination and an essay or two; the second, besides some

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written examinations, demanded of the students in their Junior and Senior years the delivery of a few original declamations, but attended to scarcely anything but the style of rendering, and even to that in a very limited way; the third put down in its catalogue written exercises as a part of the prescribed course and rigidly demand their execution. It required in the Sophomore year six themes; in the Junior, six themes and four forensics, and in the Senior four forensics, and written examinations in everything throughout the whole course. The greatest value of these last is in giving readiness and concentration of thought. They do not afford time for the selection of words, and this is an element that should enter very largely into a young writer's composition. Rapidity of composition in anything designed for use, should only be attempted when the proper words have become so familiar that they present themselves with the thought we would express.

As far as I have been able to learn from an examination of published reports, the number of exercises given above is the highest required in any of our colleges, as well as the best adapted of any in use for the greatest thoroughness in drill. In the majority of them the number falls below this, and also the kind. Most generally all the training the student gets in this department consists in a few general remarks from the professor of English, and these usually amount to no more than directing him to write in the most elegant and telling style. Besides these, he has his own efforts in the literary societies, together with the crude criticisms he receives there. These, to be sure, are not to be despised. They are a vast help to a young man who earnestly applies himself. I dare say there is not a man who has been through college but that remembers some such criticisms that have been more or less valuable to him all through his life.

I do not think this neglect of writing comes from disapproval of it, so much as from indifference. A large number of instructors seem to proceed on the principle that if they furnish the student with facts or the opinions of other men, the rest will take care of itself. But experience proves that the man full of facts simply is scarcely more capable of grappling with the great practical questions of life than the veriest boor. Such a one is above all others the most easily led astray by well-dressed error. All new doctrines are to him dangerous alike, because he has never been taught to distinguish for himself. Such an education is of course glaringly incomplete. It leaves the mind all defenseless. It is the business of education to give the mind nerve and discernment. The body may be trained up in such a way that though it has a man's size and flesh, it has a child's strength. So the mind may have an admirable breadth of knowledge, and yet be utterly powerless before untruth. It has no self-reliance—practically, no judgment.

The whole lot of developing the judgment does not fall to the lot of writing certainly. Many influences contribute to this; but writing is, I think, very prominent among them. The end aimed at by it is three-fold: First, elegance of diction; secondly, how to think originally; thirdly, exactness of knowledge. I do not believe that any one of these objects can be completely or easily attained without it, especially not the first.

It is no small thing that a man is able to tell elegantly what he knows; nor is it any small part of his education that teaches him how to do this. The first thing in training a child is to instruct him in the use of words; and nine children in ten are taught wrong. Their parents, from whose lips they catch the first elements of speech, do not know the use of words. This is why it is so hard for children to acquire anything like a mastery of our language. During the very period when they could have acquired it most easily, they were acquiring something else. Their school education, therefore, instead of being an advance on what they already know, is too often an upheaval of it, a direct warfare upon it. Also, it is a fact to be deplored, that too much of the ordinary conversation of the young, and sometimes of the old, is carried on in a dialect of unadulterated slang. They so accustom their minds to this kind of speech they often find it difficult, if not impos-

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sible, to express their thoughts by any other means. I have many times seen men embarrassed by this difficulty. It is not to be denied that slang sometimes gives a happy turn to a thought; but it is not at all fitted for the best thoughts. It follows that those who use the most slang have the least nobility in them.

All this appeals powerfully for some counteracting influence in our schools and colleges; and where can it be found so well as in writing judiciously used. The child at first has no thoughts of his own, and must use other people's. But this does not prevent his using these borrowed thoughts properly; in which his energy is to be spent until he gets strength enough to do more; not that he completes it first, but he begins it first and afterward carries it on simultaneously with other things.

Elegance of style is acquired just as we acquire speech, by association and practice. Reading, while it is an excellent help, is not enough. A man may be sufficiently acquainted with a language to read it with perfect ease, and to detect any grammatical mistakes of his authors, and yet not be able to write it or to speak it, unless he has made this a matter of special care. This, if not seen readily in regard to English, every one knows to be true who has studied other tongues. He finds that mere knowledge of the forms of a language, however good that knowledge may be, does not by any means make them master of the language; and he will see many persons who speak it with ease and correctness, if it is a spoken one, who are not nearly so well able to explain its forms and intricacies as he is. They use it, he does not; and though the reasons may have escaped their minds, having acquired a correct style, they keep it as naturally as they would another.

Some object to writing because, they say, it gives preciseness at the expense of ease, which is the charm of most kinds of style. It need not do it. Preciseness must not be interpreted to mean dryness. Perfect propriety is compatible with perfect ease. But I suspect that what our objectors call an easy style, is the common, corrupt, and inelegant conversational. Moreover, we find that those most accustomed to write, write the most elegantly. Speakers who are entirely extemporaneous are usually the poorest writers; and generally choose their words with the least regard to propriety. They are they who, when they write, fall almost invariably into the unpleasant mannerism which our objectors lay at the door of writing.

After the discipline of the ordinary academical studies and the theme-writing, which consists mainly in expressing, the pupil is furnished to a considerable degree with the means of thought. He has a store of facts, and his ideas of what he has been studying before begin to assume shape. It is at this point that writing begins to be more perceptibly useful. It helps to a larger vocabulary of unusual words, that is, unusual to the average student. It is to be remembered that each individual makes use of really a very small number of words. From three hundred to seven hundred serve all the ordinary purposes of life, and few persons have more. But it is very evident that the man who has no larger vocabulary than this, has a very narrow sphere of thought. We would not, I think, err very much if we measured every man's mental calibre by the number of words he uses. They are the instruments of thought; and the more and the better words a man has, the more and the better thinking he is able to do. The workman who uses the finest tools does the finest work, and the man who has the most different tools must do the most different kinds of work. Every word added to our vocabulary extends the possible range of our thought. This is an advantage that can not be overlooked. Writing not only helps to a knowledge of words, but to a correct use of them. It not only extends the range of thought, but clears its horizon.

One great need of our present system of education is accuracy. There need be no pedantry about it. We want true scholarship. "Writing maketh an exact man." We need much of it, more than we have. It is an easy thing to imagine we understand a subject; but there is nothing that undeceives us so quickly as to try to state it clearly. When we come to this, we find that

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what we took for ideas, are but ghosts of them.

Again, what we are accustomed to satisfy ourselves with in verbal statements, often makes a poor appearance in writing. It is not only meagre, but obscure. It grasps no complete thought. This may be obviated by making abstracts of the subjects we are studying, in order that in a small compass of unequivocal words we may have the thought before us. Sometimes longer statements are desirable, that we may assure ourselves that the details of the subject are firmly grasped.

In learning the languages, I am persuaded that entirely too little writing is practiced to attain the desired accuracy. Verbal translations seem quite lucid, and often we would fain call them elegant, until we commit them to paper, where the eye may assist the ear in detecting their deformities. Thus is knowledge tested.

I am far from wishing to depreciate other methods of training the mind to think. I only wish writing to have its proper place. There is one thing that writing can not give a man so well as speaking, that is, readiness. But readiness can not be acquired in the true sense until we are acquainted with the correct uses of words. It is the office of writing to give us a stock of words, with their true meanings, that we may attain readiness in thought and speech.

MATEO JUAN.



ARISTOTLE.

ARISTOTLE, the distinguished founder of what is termed the Peripatetic School of Philosophy, was born at Stagira, in Thrace, in the year 384 B.C. He removed to Athens when but a youth of seventeen, and was one of the first to enter the school established by Plato, on his return from Sicily, and he was during his whole life one of the most devoted friends of his distinguished master.

Aristotle possessed a mind of wonderful range and strength, but of a different type from that of Plato; hence, although he admired his teacher, he differed from him very decidedly on some points. Plato, like Socrates, possessed a highly metaphysical

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mind, and gave precedence to moral philosophy over natural science, and took delight in speculations about the immortality of the soul and its future state. Aristotle's mind was of an observing and logical type; hence he had little faith in a future existence, and taught that a knowledge of those sciences which pertain to matters mundane is of primary and paramount importance.

He is justly styled the "father of natural history" and the inventor of logic. His mode of reasoning was the inductive, and by some he is regarded as the discoverer of that system of reasoning, but it had been in use long before his day. He simply gave it prominence at that period as Bacon did in his time.

Aristotle was not only a close observer and strong analogical reasoner, but he was a man of very pronounced opinions and strong prejudices. He was what in modern times would be termed an "egotist;" his systems of science, logic, philosophy, etc., were perfect—in his opinion—and he taught, therefore, as one armed with the authority of ultimate truth. While other philosophers doubted, giving their views for what they were worth, Aristotle dogmatized. This, I presume to say, is why his system survived during the eclipse of thought, known as the Dark Ages. It was orthodox to be a disciple of Aristotle, but rank heresy to believe in the sublime teachings of Plato, not only in Christian, but also in Mohammedan countries.

The priests everywhere encouraged the study of Aristotle, and indeed the Church enforced the acceptance of his philosophy upon the people. This is to be accounted for solely on the ground that he, being a materialist, troubled not himself with spiritual matters, but confined his researches and speculations to material and intellectual subjects, leaving the realm of faith and speculation to the clergy, who are ever tolerant of the scientist who is careful not to invade their domain, or who may be wholly indifferent to spiritual matters. The father of Aristotle was chief physician to Philip of Macedon, who, on hearing of the fame the young philosopher had won at Athens, sent for him, and gave him charge of the education of his son Alexander, known in history as Alexander the Great. The king paid him a great compliment by saying, that he considered the fact of his having a son born to him, of less consequence than the other fact that he was born in the age of Aristotle, and could have so great a philosopher for his master. I think it not unjust to Aristotle to say that had the young prince had Plato for a master, and had he been as devoted a disciple of Plato as he was of Aristotle, he would not have sought his highest happiness in political ambition, nor would he have died in a drunken debauch in the prime of life. Aristotle is said to have been an exemplary man in his private life, and although his influence proved injurious as well as beneficial, perhaps more injurious than beneficial, yet he is to be credited with pure motives. He was not a philosopher in the higher and better sense of the term. He could not soar with Plato, for the reason that he did not possess the moral perceptions, the spiritual aspirations, and the causative reason of this prince of philosophers.

When about forty years old, Aristotle visited Asia Minor, and while there, a guest at the court of Hermias, Prince of Atarneus, he became enamored of Pythias, the adopted daughter of the prince, and after a short courtship married her. Some years afterward, on the assassination of his friend and patron, Hermias, he fled with his wife to Mitylene, and it was from here that he removed to the court of Philip to become the tutor of his son.

Alexander having succeeded his father on the throne in the year 336 B.C., Aristotle returned to Athens and opened a school, which he named "The Lyceum." The term peripatetic, as applied to his system of philosophy, originated in his habit of walking about as he lectured. The people of Athens denominated him the Peripatetic, or Walking Philosopher. The term had no significance when applied to his system, and has been a stumbling-block to students of both history and philosophy. Among the distinguished men who were ranked as disciples of Aristotle, Callisthenes, Demetrius,

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Phalaris, and Theophrastus, may be mentioned.

His books are: 1, Dialectics and Logic; 2, Physics; 3, Mathematics; 4, Metaphysics; 5, Ethics; 6, Politics; 7, Economics; 8, History; 9, Miscellaneous writings.

Owing to the prejudice against his writings, arising from the fact of their popularity with the Catholic priests, they have not been studied or even examined much since the Reformation. And although I predict they never will rank with the "Dialogues" of Plato, yet, as prejudice subsides, they will again become standard works, not in the sense of being authorities, but as the highest thought of one of the old masters. A record of mental achievements which the world can not afford to lose.

Aristotle had the grace to say, that although compelled to differ from Plato, and to teach a different system, yet he honored and loved his former master to the day of his death, which occurred at Chalcis in Eubœa, in the year 322 B.C., and in the sixty-second year of his age.

THE SYSTEM OF ARISTOTLE.

I have said that Aristotle differed from Plato radically; some hints have also been given of the ground of that difference; but I am sure the reader will be glad to have me epitomize the system of the great Stagyrite; a system which reigned supreme in scholastic circles for more than twelve centuries. Aristotle was a scientific materialist. Hegel says, "Plato was a rational idealist, Aristotle a skeptical empyric."

In opposition to Plato's doctrine of ideas, he presented the doctrine of facts. Things only exist, and things can only be known by sensation. Philosophy is simply the deductions of science, arrived at by observation and induction. The true method of investigation, says Aristotle, is to collect all the facts or particulars, and then deduce from these the causes of all things and their actions. This he accomplishes by a system of induction similar to that adopted by Bacon. He calls it the art of reasoning; an art, man alone possesses; brutes can not reason, because they can not correlate memory into experience, which is the art of induction.

Art commences, says Aristotle, in his work entitled "Metaphysics," when, from a great number of experiences—observations—one general conception is formed, which will embrace all similar cases. Thus if you know that a certain remedy has cured Callias of a certain disease, and that the same remedy has also cured Socrates, and several other persons, that is experience. To enlarge this experience till you know that this remedy will cure all persons attacked with that disease is art.

Well may Mr. Lewes say: "Here is the fundamental idea of positive philosophy." Comte is but a disciple of Aristotle, and not the great original thinker he is credited with being.

It is a matter of no little surprise, that Comte should have successfully, as he has, imposed the idea upon the world that he was a profound philosopher, even deceiving Stuart Mill to the extent of being able to tax him for his support on the ground of his being the founder of a great system of philosophy.

Aristotle had some conception of ideas, but these could be arrived at only through facts. Plato taught that facts were the product of ideas. Aristotle said, "Ideas are deductions from facts."

Aristotle is regarded as the greatest logician of all time. A glance at his system of logic can not, therefore, be a waste of time.

Logic, says Aristotle, is the science of affirming the most active and useful operation of mind, the highest function of thought; indeed, he at times used the terms logic, and thought, as though they were synonymous. It is the mind's conclusions based on the sensations produced by objects. Sensations are always reliable, but you may draw false conclusions in regard to them; hence, logic is of two sorts, true and false. Each single thought is true, but when you put two thoughts together, and draw a conclusion, that conclusion may be false. Thoughts are a series of propositions. To understand the nature and relations of propositions is the art of logic.

He was syllogistic in his mode of reasoning. Certain propositions being laid down, a necessary conclusion, distinct from

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the propositions, may be drawn without employing any idea not contained in the propositions. For example, all bad men are unhappy. Every tyrant is a bad man.

Conclusion: All tyrants are unhappy. All conclusions owe their existence to anterior knowledge, which forms the major proposition of the syllogism; the conclusion is simply the application of the general to the particular. Thus if we know that tyrants are unhappy, we know it because we know that all bad men are miserable, for the middle term tells us that tyrants are bad men.

To know is one thing, to demonstrate our knowledge by giving the syllogism which expresses it is another.

It is one thing to know a thing is so, and quite another thing to know why it is so; hence the two orders of demonstration: the one proving the cause by the effect, the other the effect by the cause.

With some latitude in the way of assumption, Aristotle's system of logic is a complete and beautiful system; without this it is so defective as to be of little use, save as a means of training the mind. Until Bacon, it was standard in all the schools of Europe, and some knowledge of it is still regarded as essential to a liberal education.

ARISTOTLE'S METAPHYSICS.

By common consent, Aristotle has been classed with the metaphysical philosophers, but, as we have already stated, he was not a philosopher in any true sense.

He wrote a book which he called "Metaphysics," but this work controverts almost all the principles of ontological dialectics.

For example. The fundamental idea or proposition of metaphysics, is that the cause—essence—of things is spirit.

Aristotle says: Matter is primary. To matter he gives those attributes which Plato gave to ideas, and the subtle forces of nature—including the human faculties of intellect—are but properties or correlatives of matter.

Matter, he says, exists in three forms. Objective, to the senses, as the earth; second, celestial bodies, the stars, which, although sufficiently gross to be perceived by the senses, are yet imperishable; third, God, the absolute, eternal, unchangeable, substance, thought.

Here Aristotle is seen to reach an approximation to the sublime heights of philosophy, but his method not being philosophical, his conclusions are of little value. Lord Bacon has most clearly shown the futility of his effort to reach the unknown through the known, and by doing so he broke the chains of dogma by which Aristotle had held the scholastic world in slavery for almost two thousand years; thus performing a service to humanity of inestimable value. Aristotle was a man of immense grasp of mind, but his mode of thought was scientific rather than philosophical, hence his failure. Had he lived in this age he would rank with Humboldt, Cuvier, Priestly, Huxley, and Tyndall; indeed, for breadth and force of thought, he would probably outrank the whole army of scientists and speculators since Bacon. He had no superior in Greece in these respects, with the single exception of his great master, Plato.

T. AUGUSTUS BLAND, M.D.

CHEERFULNESS.—It is not very difficult for a person to be sunny-tempered when everything is going prosperously with him. When a man has made two or three hundred dollars a day, and all the signs are favorable for his making the same amount to-morrow, how good-natured he can be! When the hour comes to close the store, he takes his hat from the peg, buttons up his overcoat, and starts for his home with the feelings of a king.

But times change. The business sky looks darker and becomes black with ominous clouds. Buyers are timid; sellers are suspicious. The current of trade shrinks. Goods remain unsold; household expenses crowd; small bills accumulate; duns grow imperative. Ah, now is the time, friend, when good nature in you is a virtue; yea, a grace. Now is the time for you to show what stuff you are really made of. If you have faith in something nobler, higher than this world, let that faith be manifest in your conduct. Do not take a gloomy face and a sour temper to your household. That household has troubles and clouds enough in its own sky.—*Golden Rule.*

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HOW TO TEACH.*

THE FACULTY OF WEIGHT.

ITS NATURE AND USES.

WEIGHT, or ponderability, is an intrinsic quality of matter. Things weigh more or less according to the amount of matter which they contain. The faculty of Weight recognizes this law of gravitation. Bodies are attracted towards the earth, and the earth itself is attracted towards other bodies, in proportion to the size, weight, and distance of those bodies. Man and animals are adapted to this law of gravitation by means of the faculty of Weight. It gives the power to balance, or the sense of equilibrium. Those in whom it is strong, obey the law of gravitation in respect to themselves with more ease, accuracy, and grace than others. Some men walk as if they were on springs, and their motions are easy, harmonious, and graceful. Others walk with a lurching, swinging, lounging motion, as if it were hard work to regain at each step the equilibrium.

The process of walking, simple as it appears, is rather complex. Imagine a man standing, harmoniously balanced. He desires to walk; he lifts one foot, and by a muscular effort, or by the weight of the lifted limb, his body is caused to lean forward, and inclines to lose its balance. He restores the balance by putting out the lifted foot, and shifting his weight to that foot, and repeats the process. Now, in order to be graceful, when he lifts one foot he must maintain the equilibrium of body, by a slight effort of muscle, until he gets the other foot down. In this way he can walk so as to keep his body and head moving in a direct line. But if, when he lifts one foot, he surges over the other way to balance the lifted limb, when that foot comes down he has to lean the other way to balance the other lifted leg, and thus his head swings from side to side, and his brawny shoulders lurch hither and thither like a vessel in a rough sea, and the whole process of walking to him is laborious and anything but graceful.

If one will observe horses, he will find the same difference in their movements which are seen in different men. One horse will trot like a fox, and his movements will be easy and smooth, and therefore he will be a good saddle-horse. He will roll off the miles and not wet a hair with perspiration, while another horse, trotting by his side, or separately, going at the same gait, will foam and froth, and be dripping with perspiration. He may really be stronger, pull a heavier load, and be able to go as fast as the other, but he does not move as easily, because he does not balance himself. Observe a horse, as he rapidly turns a corner, how he throws the weight of his body inward, and the driver, sitting on the seat, leans inward to keep himself from losing his balance and being thrown from his seat by the centrifugal force. Watch a circus-horse as he goes around the ring—the track or the path being made at an angle of twenty degrees' inclination for the bracing of the feet of the horse; he leans inward perhaps twenty degrees, as his rider also does, to keep their equilibrium. In this way the law of gravitation and the centrifugal force harmonize or balance each other; and it takes a strong develop-

* From "How to Teach, according to Temperament and Mental Development; or, Phrenology in the School room and the Family." By Nelson Sizer. S. R. Wells & Co., New York, Publishers. Price, by mail, $1.50.

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ment and a nice adjustment of the faculty of Weight to make a good circus-rider.

We once employed an artist to draw some portraits, illustrating the development of the different organs. We placed the photograph of a noted man before him without thinking to give the name, and when the artist came to that part of the brow which indicates the organ of Weight, just above the inner edge of the eye-ball, he said: "You do not want that caricature—that bat's-wing appearance put in?" In fact the organ of Weight was so developed that it looked like the uplifted wings of a bat across the inner angle of the eyebrow, like a brace in carpentry, filling that portion; and we replied that the part he wanted to leave out was precisely what we wanted of the picture—that it was what we were painting it for. And when he asked to know who it was, and we told him it was Blondin, the great rope-walker, he opened his eyes, and was satisfied to paint the picture as it had been taken by the sun's rays, in photography, from the man's own face.

USEFUL TO MECHANICS.

Workmen who have this faculty well-developed understand the force of the blows they are required to give to accomplish certain ends. For instance, in the familiar process of cracking walnuts—and our young friends understand something about that—we give one light blow to see that the nut is not going to slip, and then with one sharp blow the work is accomplished, and a person who knows how, will crack fifty walnuts in succession, with one tap to regulate it, and one blow to do the work; and if it happens that the blow he supposes to be sufficient does not do the work, he is astonished. Another person who may have cracked just as many walnuts, but who is deficient in the organ of Weight, will strike three or four blows, increasing every time in force, and by and by crush the walnut and make it fly all over the house, and perhaps bruise his thumb or finger.

If we were lecturing to an audience of mechanics, we would give illustrations, in several departments, that they would understand instantly. We have seen a carpenter who would drive his nail nearly home, and continue to give heavy blows until his hammer mashed and marred the wood. We have seen a chopper smite a small stick and drive the axe into the ground; whereas, if he had given a light blow, it would have been sufficient. Some people are always breaking, marring, and bruising everything with which they have to do; and when they are walking about the house, there is no spring to the walk, but a heavy trudge. They will slam doors, and it is rattle-bang from morning till night. Clerks in stores show the same rude, unregulated use of force; and if they happen to get into a crockery store, they break more than they earn. Prize runners and walkers avoid tiring themselves, or wasting their strength, by assuming a well-balanced method of motion. They waste no strength by swinging the arms, or in rolling the body from side to side. They obey the law of gravitation through the action of the faculty of Weight, and thus win the prize against those who walk heavily and surge from side to side.

The seaman requires a good development of this faculty, because he has to climb and maintain his balance in lofty and difficult positions. He who has this consciousness of power to balance, can climb without feeling frightened or giddy. People who have the

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organ of Weight deficiently developed get sea-sick. Those who are able to keep their balance nicely, and adjust themselves to the rolling motion of the ship, so as to keep the brain from swinging this way and that, will go across the Atlantic without getting sea-sick; but those that swing with the ship, and bring up with a lurch, and do not know how to adapt themselves to the motion—or, in other words, keep their balance—get sick. Some men riding horseback, churn, churn, churn, at every step of the horse, tiring the man and wearying the horse. They do not seem to know how to ease their own weight by a gentle pressure upon the stirrup, and a slight muscular effort in harmony with the motion of the horse. When a person goes pushing through a crowd, and jostling everybody, it does not necessarily arise from rudeness and carelessness of disposition. It may be a lack of power to balance. Witness persons dancing who have a good development of the faculty of Weight. All the motions are easy, and they swing and sweep in harmony with the music, and with those that are moving with them, and their motions would indicate that they were light as gossamer, though they might belong to the "heavy-weights;" while another person, weighing 130 pounds, will seem to jar the house, jostle others, rudely hitting them as he passes, the blows received from his shoulders being exceedingly heavy and very uncomfortable to bear. When one takes the hand of such a person in the dance, it is not a light, easy, self-poised hand, but a drag for the time being on the one who holds it. We have seen men, who weighed 250 pounds, whose motions on the floor did not seem to jar the house; nor did they bear so heavily on the hand as some who weighed half as much, and who in walking would step on the heel and let the whole weight come crushing down without any effort at adjustment or modification.

It will therefore be seen that the faculty of Weight is useful in a thousand ways with respect to safety, in regard to ease of motion, correctness of effort in mechanics, and in an economic sense relating to breakage and damage, and also as a means of ease and grace of motion in society. It is a great aid to what is called culture and good manners. A man may have all the classics, all the ethics and mathematics in his head, but if his muscles do not obey the law of gravitation, he walks like a wooden man among men — jostling, jerking, and offending anybody that is in his way. Pope says: "Those move easiest who have learned to dance;" and people are more likely to dance if they have enough of the faculty of Weight so that each motion is done with facility and agreeableness to others; but one who can not turn a corner without tumbling down, who can not make a curve without awkward effort, is not very likely to move well in the mazy dance. He feels that he is going to run against everybody, and everybody gets the same idea. Such persons are not sought, except through courtesy, as companions in the dance; and the lack of this faculty may make persons of great talent and excellent worth neglected in the drawing-room, because when they move they do so at the danger of everybody's toes, and there comes to be a feeling of repugnance, and dread, and fear respecting them.

The teacher can do much to cultivate grace of action in the pupils in school, in respect to the walk and the motions. If there be marching, if there be elocution, there will be a good opportunity for monitions—for instructions

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on the subject. Boys in school should not be permitted to stroll and stamp about the room with their heavy boots, as if the boots had a cast-iron man in them, or a wooden boy—a person without soul or ambition. They should be kindly asked to try that over again, and some boy, who knows how to walk with grace and ease of motion, should be asked to set an example; and though it might mortify the boy who was thus criticised, it would cure him of a habit that would mortify him ten times worse by and by. At any rate, it will be an admonition to every person in the school. If the teacher will watch, he will see that it will be taking effect with the next boy or girl that walks across the room. There will be an effort, in accordance with instructions, to do it with grace and propriety, suited to the place and the occasion.

In penmanship the slope of the letters will be regulated largely by the faculty of Weight, and if the law of form requires that a given slope shall be made in the letters, and they are sloped because that is supposed to be the easiest way to make them, the faculty of Weight will help appreciate the variation from the vertical required by the letters. If one letter leans like the tower of Pisa, and another stand perpendicular like a church spire, another like the raking slope of a ship's mast, and these all occur in a given line or word, the faculty of Weight is offended; but let them all lean in one direction, as grain pressed by a breeze leans in one direction, then the faculty of Weight is satisfied.

If we look at the picture of an officer standing by his horse, with his elbow on the pummel of the saddle, and of course leaning towards the horse, we are satisfied with the attitude of the man, because we see what he leans on; but if we cover up the horse and the elbow of the officer, and his body is seen to lean without any visible means of support, it offends the faculty of Weight, which perceives the error and gives us pain.

We judge of level by the action of two faculties—namely, Weight and Form. Weight gives us an imaginary, perpendicular line. Our own center of gravity is expressed by that which is vertical, when we have anything to express it by; and when we have nothing to express that line, we carry it in imagination, and we may look at something that we may wish to estimate as to whether it be level or declining, and we stand erect—for it would be difficult to judge of it while reclining—and compare that which is horizontal, or nearly so, with the perpendicular line we have in the mind, and then the faculty of Form tells us whether they constitute a right-angle. When we look at picture-frames hanging, we have the side of the frame to aid us; but if the frame be irregular and scalloped, and it has no straight line, then we take the whole mass into view, and as we may say, draw a line through its center, and see whether that perpendicular line which is suggested by the faculty of Weight shows on each side of it an equality of bulk. Sometimes people think they judge of the plumb and the level of things by comparing them with something else; but if one stands on a side-hill where there is nothing within the whole range of his vision that is perpendicular, if he has a straight pole he can set that in the ground and walk around and consider, without any regard to the ground it stands on, or the sloping hills in the distance, whether it corresponds to his internal sense of the perpendicular, and he will plant it so that he shall be almost accurate in reference to its vertical position, and do it solely by the faculty of Weight. Now if, when that

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is planted, one wants to see whether the ground is level, he can, with his faculty of Form, estimate the angles which the surface of the ground forms with the line of the pole he has erected.

The discussion of the faculty seems dry, perhaps, because people have not been accustomed to think in that direction; but if the faculty of Weight were to be disturbed, it would seem to throw everything into confusion. The man who takes much intoxicating liquor seems to have the faculty of Weight disturbed more than anything else. He complains of the width of the road much more than he does of its length. Nothing is more confusing to a person than to have that swimming of the head, or giddiness, which disturbs the balance, whether it arise from a rush of blood to the head, or from some other cause.

The faculty of Weight, then, blends with all our motions, and it is a factor in all that we do. If it be weak, it may be cultivated by the training which will keep it active. It is sometimes so active in persons that many things annoy them, because the law of gravity is disturbed. A crooked stone fence, that looks as if it were toppling to its fall, would make such a man very unhappy, and he would be inclined to overhaul such walls—to brace and straighten up fences and gate-posts. A child that has the faculty well-developed will learn to walk early, and one that is weak in it will tumble down often, and will rarely attempt to climb, and be unsuccessful in any such attempts; while others will climb like monkeys, never fall, balance anywhere, learn to ride, and the more fiery and spirited the horse the better they like it.

THE FACULTY OF LOCALITY.

STUDY OF GEOGRAPHY.

The science of geography depends chiefly upon the faculty of Locality, or, it might be properly called, local memory. Numerous considerations show this to be a special faculty, and that its strength and activity bear no special relation to the vigor of the general intellect. In the lower animals it seems to be an intuitive instinct, not dependent upon the general intelligence of the animal.

Dr. Gall, when a boy, was very fond of the study of natural history. He liked to take young animals and raise them as pets. He hunted for birds'-nests, and watched the development of the nestlings; and when he went into the forest to find nests, or to set snares for birds, or traps for animals, he unfortunately was not able to find them again. Not willing to give up his researches, yet unable to return to the nests, or to find the snares and traps which he had set, or to return to his home readily, he was obliged to take one of his playmates with him, who cared but little for birds or their nests, yet he easily remembered the location of every nest and trap; and though young Gall was the master of the enterprise, his playmate was the pilot. This method was adopted from necessity, but it made an impression upon Gall's mind which, in after years, laid the foundation of the discovery and the philosophy of this organ. His associate remembered the location of the nests, but cared nothing for natural history; while Gall, eager in reference to the subject-matter of inquiry, was unable, though anxious to do so, to find his way to the nests he had before discovered, or back to his home again. Gall lacked the faculty for geography—his associate possessed it in a high degree. Subsequent investigations led to the location of the organ in a particular portion of the brain, and the application of the name it bears.

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ITS LOCATION AND RATIONALE.

The organ of Locality is situated in each hemisphere of the brain, about an inch outward from the middle line, half-way from the brow to the top of the forehead, and when it is large it gives fullness to that region of the head. The nature of the faculty is adapted to the fact that no two things can occupy the same space at the same time, consequently everything must be located in respect to every other thing—above, below, or laterally. And since man occupies a place, everything else, as it respects him, must occupy some other place; and the faculty for remembering places—Locality—gives him the idea of relative direction or position.

Those in whom this faculty is well-developed and active, remember not only the cardinal points—North, South, East, and West—but *all* the points of the compass, and are able to recall them, and feel an ever-present knowledge of them. Those in whom the faculty is poorly developed have little idea of the direction of anything from themselves, and have to manage in an artificial manner to keep in mind their own location. Instead of knowing that a place is east of them, they know they have to turn to the right to go to it, and to the left in returning home; and if they were to forget this idea of right and left, the idea of intrinsic location would give them no clew to the place.

ANIMAL INSTINCTS IN LOCALITY.

Certain animals have this faculty in great perfection. A horse will find the way when his master is lost. It is a well-known fact that horses which are used by persons who carry the mail and distribute newspapers along the road for many miles, and that the horses of milkmen and physicians in cities, learn the several stopping-places; and when a customer is lost for the newspaper, or for the milk, or when a patient has recovered, so that the daily visits are suspended, it requires some time to train the horse to go by without trying to stop. We have often seen a horse that would go through a whole street, twisting about from house to house, and across the street, with a milk-wagon. While the man was serving one customer, the horse would go on to the next, if it were near, and when the last house on one side of the street had been reached, the horse would turn himself around and stop at the next place, on the other side, on the way back. This instinct in the horse, which adapts him to his natural state, is brought into use, in the service of his master, in these and many other ways. A horse being sold and taken 200 miles, and having been again sold, and resold, has been known to stray away from his owner and work his way back to his original home, or the home he liked best. It is known that dogs can be removed from on shipboard to strange countries, and when placed on the track of their game will follow it all day, over hills and mountains, through ravines, forests, and jungles; and when the game is taken, or the chase abandoned, they seem to know the way to the place where they had their breakfast, and will start instantly, in a direct line, for their temporary home. In every farming neighborhood it is understood that if a pig two months old be carried miles from his home in a wagon, in an open barrel, which offers him only a patch of sky to look at, he will get out of his enclosure, if possible, and go straight home—even swimming rivers—paying no attention to roads, but wallowing through the tall grass, cornfields, or forests, until he finds his native place.

NELSON SIZER.

(*To be continued.*)

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FORCE IN MATTER AND MIND.

WE should comprehend the principles of every branch of science to enable us to perceive how the uniformity of force gives method to atoms and harmony to the material universe.

Ancient philosophers believed the atmosphere to be a simple element, and some of the Grecian savants regarded Jupiter, the god of Olympus, as a symbol of the air. Science has dissected that potential god and exemplified the anatomy, the physiology, and the chemistry of his parts. When the atmosphere was decomposed and oxygen utilized, physiology was placed on the rational basis of physics and chemistry, presenting to view clear statements, complete inductions, and exact methods. Natural philosophy now teaches us that light, heat, and electricity are but different modes of motion, and these but different manifestations of force; that force and matter are alike indestructible, and gravitation invariable; and that every phenomenon and atom in the universe of matter result from the antagonistic and reciprocal action of these forces; that everything is evolved, and all nature is a homologue.

Astronomy has taught us that the sun is not an immaculate orb of fire circulating around a great flat world on which we live, but that the combustive matter consumed by the sun in each hour is equal to six tons of coal for each square yard of his surface, and that if the whole orb were a mass of coal it would, without receiving accretions from meteoric matter, in 5,000 years burn to a cinder. And yet this fiery orb holds paternal kinship with our earth. Chemistry has taught us that the same force that holds the inorganic worlds in equilibrium and harmony, obtains in the world of organization. Physiology and comparative anatomy teach us that organic bodies differ only in degree of organization. They are the same in their life, cell development, and chemical constituents. In a sentence, I will say there is but one scale of organic bodies. The vegetal organism develops by involution or duplication of the leaf upon itself, or upon its fellows in the same bud. If there is adhesion there is arrested development, and thus are formed the flowers, grain, and fruit. The lowest animal embryon is just a little higher in the scale than the highest adult plant. Here the type is the cupped cell, and the nutriment a more refined pabulum.

Biology presents to us a method the very similitude of mathematics. We have the cell or physiological point, then the line of cells, as in the baculus; and the line when flexed upon itself forms a surface, and the involution or folding of this surface upon itself forms a solid. Geometry proceeds by the same steps—the point, the line, the surface, and the solid. The simplest cell we can behold is a complex organism presenting differentiation, organization, and life.

NERVOUS FORCE.

The material universe is made up of atoms and ether. These atoms are solid centers of force, and the ether is the medium through which the forces or motions of the atoms are transmitted. Similarly the nervous system is composed of two kinds of elements; these are cells and fibers, which are united. The cells of the brain and spinal cord have diminutive prolongations of fibers, besides which their cells are usually united by but one real fiber; but in other nervous tissue the cells are united by two fibers. Physiologists believed until recently that nervous force is generated in the cells only, but it is now a veritable fact that this force may arise in the fibers as well. Brown-Sequard injected blood into an amputated limb, and thereby reimparted nerve-force to the dead tissue. And according to the same authority, even the brain, after it has been separated from the body, may be thus brought to exhibit appearances of life. Then, while nervous force may be generated in any nervous tissue—in the cells, fiber, ganglion, or cord—it is also true that the cerebellum is a great laboratory for the production of this force. The nervous system presents various manifestations of energy, but there is but one nerve-force. Just as in physical science there

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are many phenomena of force, but one force.

The differences in sensation depend upon organic peculiarities of different nervous tissues. For the same reason associated with differences in influencing agents, muscles may be paralyzed or contracted; sensation increased or diminished; and volition intensified, or reason dethroned. Diminution and exaltation of nervous force are both characteristic of certain organic lesions or morbific elements. Either may exist alone, or both together as phenomena consequent upon previous lesion or agency. And either of the above conditions may become obvious indications in the treatment of disease. Pressure on the neck over the regions of the carotid arteries will often relieve congestion of the brain, or cut short a fit of epilepsy or hysteria. But the pressure acts not so much by direct mechanical occlusion of the carotid arteries as by irritation of and diminution of force in the parvagum nerve, by which the action of the heart is enfeebled, and by diminishing the force of the cervical sympathetic nerve, and thus producing contraction of the cerebral vessels. On the other hand, a dose of strychnine will develop an excess of nerve-force. But the normal source of this force is oxygenized blood, and moderate muscular exercise. Excessive exercise, however, whether physical or mental, consumes and diminishes the nervous energy. Hence we do not feel like putting forth mental effort when we are exhausted by physical exertion, for the nervous force has been converted into physical force.

And here again nervous force finds in physical science an obvious analogue. Not only are all the apparently converse vibratory activities of nervous tissue necessary corollaries arising from a single force, but this force is convertible into physical force, which is again convertible into various activities and phenomena, the common name of which is force, the common property of which is motion, and the common expression of the various activities of which is mode of motion. Grove placed a silver gridiron on an insulated plate in the sunlight, then applied a galvanometer, and found that the sun's rays were converted into chemical action on the plate; electricity through the wires, magnetism in the coil, sensible heat in the helix, and motion in the needle.

Physiology is an exact science. In its triumphal march it has passed the bounds by which our fathers limited its legitimate domain. Already it has bridged the abyss which yawned between it and physical science, and the reasonings of early philosophy have been set aside or brought into reconciliation with the facts of science. Nervous force must be defined in terms of electrical action or physical force. This brings to view other facts—facts bearing upon a question which has been held as too sacred to be approached only on reverential knees, viewed with the eye of faith, and solved by the traditions of mythology or bibliology.

Psychology was developed and is moving onward like a gigantic world by the mutual action of two conflicting, yet coöperative forces—an antagonism of forces tending alike to inertia and to motion. At first view we do not in this see force so plainly operating as when a massive body is moved by an obvious power.

And yet obvious enough are those physical and psychical disturbances and perturbations resulting from explosive discharges of nervous force upon the important centers. When this force culminates upon the emotional centers, the sufferer is said to have *hysteria;* when upon the motor centers, the effect is called *epilepsy;* and when this force is discharged upon the volitional centers, the patient is said to have *mania.* It is, however, in mechanics that force is manifested in the most obvious manner; but it is in no scholastic or metaphorical sense that we apply to these manifest uniformities the self-acting entities and generalizations of mental activities. Apparent, then, in incipient psychological activities are two coöperative forces—kinetical and statical, respectively producing changes and re-adjustments.

In the development of psychology the statical force or factor is manifested through the divinity in our mentality, and from this springs theology in its varied acceptations as

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parent thought to a solution of the whole array of problems in the science of mind. On the other hand, the kinetical force or factor is manifest in the whole range of physical science. Psychology was evolved by evolution of physical science. By the application of physical methods and conceptions, mental processes have been interpreted, prime facts pertaining to the mind established, and psychology in a degree relieved of the mists of metaphysics and the dogmatism of theology.

Primitive man saw in nature the impress of a God of "gods;" felt in himself the consciousness of a soul or of self-duality; and perceived in the Cosmos phenomena which impressed him with the idea of a creation; but it is by studying the laws of matter, and the correlation of force and matter, that he comprehends his environment; then by studying the structure and functions of his own organization, his own physical and mental endowments, he better understands himself, his relation to God, and God's relation to the Cosmos. To man in a state of barbarism evil spirits project the thunderbolts, demons ride on the storm, and the gods rule the Cosmos. Plato advanced a step, but considered that the Cosmos was a rational, divine, and immortal being, and that the gods dwelt in the celestial regions around, and man and the lower animals in the central sphere. And he inisted that the cranium of man is a miniature Cosmos, in which dwells an immortal soul like the soul of the great Cosmos; and that in the body proper are two mortal souls, one residing in the chest ruling the passions, the other in the abdomen ruling the appetite, and that these two and the one in the brain form a trio of souls in one body. So we see that Plato began to separate the gods from the Cosmos by assigning to them definite localities.

Next came Aristotle and merged Plato's trio of souls into one. This was the greatest stride metaphysics had ever made; but he brings forward the attributes of the platonic souls as the nutritive, sentient and noëtic elements in man. These nutritive and sentient factors proved to be the nascent truths of physiology and psychology. This philosopher conceived that the soul of man is mortal, but that the soul of the Cosmos was immortal. After the time of Aristotle metaphysical thought was almost dormant till the middle of the thirteenth century, when a discussion arose between Anselm and the Greek fathers respecting the independent existence of God, and His triune elements. In the fifteenth century the schools of Italy taught the doctrine that nature is a factor distinct from God and man. In the thirteenth century, and before either of the other two factors in the primitive Cosmos were isolated, the soul was differentiated. Now arose the most exciting controversy of mediæval times. It was the culmination of the doctrine of the Arabian Averroes on the one side, and the scholastic philosophy proclaimed by Thomas Aquinas on the other. Both were followers of Aristotle, but one looked from a Mohammedan and the other from a Christian standpoint.

According to Averroes the *Nous* was common to humanity and dwelt in each individual till the death of the body, and then returned to the celestial body—there was but one common immortal soul. This was an improvement upon the doctrine of Aristotle, and as certainly Aquinas improved upon this when he asserted the individuality and unity of the soul. But the next advance was to self-consciousness; this was made by Descartes, who said, "*Cogito, ergo sum*"—(I think, therefore I am). Thus the conception of the distinct individual existence of mind as apart from God and nature laid the foundation of the science of psychology. In tracing the science of mind from its *incunabula* (cradle) we find different names applied to the subject marking the different stages of the development of thought. Thus the pagan idea was expressed by the word Cosmos, or cosmology, which developed into theology, then into metaphysics, and finally into psychology.

Next observe the correspondence of ideas. As the crude cosmological ideas became theological and finally philosophical, our ideas of the infinite have been tending steadily from the negative to the positive. The primitive ideas of the Trinity and of

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the Incarnation have led to discussions, and these to investigations which have powerfully developed the science of mind.

A transition from theology to psychology was made by Locke when he investigated "Original Certainty" and "The Extent of Human Knowledge;" by Berkley when he investigated the nature of "Perception;" by Hume when he wrote on "Human Nature;" and immediately followed his own chapter on "Miracles" with one on "Necessary Connection." Reid wrote on the power of the human mind to refute Hume, and became the leading psychologist of Scotland. Thus it is seen that theology has ever been a common portal leading to a higher development of mental science.

Now look for a moment at the consensus of physical and mental science, and especially how the latter has been fostered by the former. When mathematics was separated from theology, man was far back in the cosmological period. Nothing was then known of mental science, so that concerning man's mentality it was then said, "*Hominis considerare pertinet ad Theologium ex parte animata,*" (It pertains to theology to consider man's nature on the soul's side). But now the man of science should be the one to have the most reliable knowledge of man and of the Deity. By applying physical methods to the phenomena of mind, reason and relation are seen imbedded in the same matrix, or in other words, to reason is to compare and examine relations. The speed of thought is measured as well as the velocity of the planets; intelligence, yes, reason, is traced along the chain of animal species, increasing with each grade of ascent in organization. Then, viewing the whole field of vision at once, we see that evolution, transmutation, and correlation are stamped on every thought, every force, and every animate form.

As we trace living forms from the cryptogam through their varying environments and conditions to the highest species of man, so we trace the mind from an opaque heterogeneous monad of a rude cosmology along its progressive stages of development, till it now appears as a luminous orb in the psychological firmament. So physical science is seen rising from the simplest relations and the merest qualitative perception of the barbarian, and by successive increments its light now dazzles the eyes of its votaries, illumines a world, and elevates the people of every nation, clime, and race.

Life and organization are transient conditions of matter resulting from force. There is nothing distinctive in human life but what results from distinctive organization when viewed in relation to the entire scale of animal existences; nothing in the mental and moral attributes that can evade the processes of material change; no impress upon matter or mind that is not the legitimate result of an efficient incipient force.

CHARLES L. CARTER, M.D.

A CRYSTAL GOBLET

THAT ONCE BELONGED TO ABRAHAM LINCOLN.

SHALL I ever dare to touch
With my lips this crystal brim?
If I ever, may I never
Without taking thought of him,
Whose pure life it typifies
Unto reverential eyes.
We, who proved him,
And then loved him—
We have nothing else to give—
Long as we shall love and live—
But these tears of late discernment,
This late crown whose flowers sprung
From the blood-drops that were wrung
From that heart, that never any
Lords or ladies of the land
Fathomed, or could understand,
Until God's revealing hand
Lifted up its rugged covering,
Showed (tho' cold, and still, and dead!)
That great heart that nobly bled—
Died for us! Pure Soul, thy lightness
Was half lost; but all thy whiteness
Clung about thee to the last;
And was never dropped, nor passed.
There was naught to make thee linger
When God's lifted, dread forefinger
Stopped the wheels and signed to thee:
"Come up here, and rest with Me!"

—HOWARD GLYNDON

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LETTERS TO A SON IN COLLEGE.

No. IV.

MY DEAR BOY:—In my last letter I considered the function of digestion. Among many practical observations in regard to eating, I gave you some directions as to when you should eat, how you should eat, and how much you should eat; but I said nothing in regard to *what* you should eat. This is a matter worthy of careful consideration; and in the present letter I will give some practical directions which will serve to guide you in the selection of your food.

That different articles of food are specially adapted to nourish different parts of the body, has long been a matter of observation. The ancient Roman athletæ not only had their training-schools established in those places, Capua and Ravenna, which were believed to contain the purest air of all Italy, but they were also sedulously careful in regard to their food. They were called Houdearii, or barley-eaters, because their diet was composed chiefly of barley, a food very rich in muscle-making material. In modern times men training for the ring are fed largely on lean meat, which is food almost entirely for the muscles alone, and probably contributes to their brutality as fighters.

In the rearing and training of animals, also, the experience of men has taught them that different kinds of food tend to produce very different physical conditions. Some are heating, others cooling in their nature. Some produce fat, others give strength and energy to the muscles; some give "wind," others sleekness of coat; some tend to docility, and others to ferociousness of disposition.

Availing ourselves of the knowledge of these properties of food, we may know how to feed our horses intelligibly to make them sleek, strong, active, and enduring; our cows, that they may give us the most milk; our ox, that he may be rendered tough and strong for labor; our hens, that they may lay us the most eggs. Even our pet birds and dogs must have their food adapted to their physical needs, or they pine and die.

Now, when we come to inquire what attention is given to diet by people in the ordinary walks of life, we find the utmost ignorance prevailing in regard to the adaptability of different articles in common use for food, to supply the needs of the system. The rearing of horses, cattle, sheep, and pigs is reduced almost to a science. We know the conditions of air, light, food, and exercise which is necessary to supply in order to preserve them in health, and develop them in the best manner. Natural death from any cause but old age is not taken into the account at all. And when this does occur, we are able to trace its cause to some infringement of the conditions upon which the health of the animal depends.

But the idea of applying scientific rules to the raising of children does not enter into the mind of one in a thousand of those who take upon them the grave responsibilities of parentage. Yet the human system is regulated by laws as definite and inexorable as those which govern the brute creation. They may be more intricate and difficult to be apprehended, as human nature is more complex than brute nature. Nevertheless they exist as truly, and are just as

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definate in their operation as those which govern the horse, the cow, or the pig.

The mother, ignorant of the nature of her children, or the causes which preserve or impair their health, may wear herself completely out in nursing and watching over her sickly family. She feels profoundly grateful, and regards it as an evidence of the special favor of Heaven, if by days and nights of toil and anxiety she is able to bring them up to maturity. And if they die, she endeavors to bow in humble resignation to what she considers the inscrutable decrees of Providence. However we may admire the maternal love and fidelity which is ready to make any sacrifice in ministering to the wants of a sickly family; however we may commend the spirit of humble submission to the will of an overruling Providence, we must deplore the ignorance which fails to recognize in pain, disease, and premature death the natural and inevitable penalty for the violation of laws wisely framed for our welfare and happiness.

It was ignorance which induced the clergy of Rome to carry a black image of the Virgin through the city, with the expectation that this public manifestation of faith in her protecting power would avert the plague; while, at that very time, the miasma from her filthy streets and by-ways was breeding pestilence in the nostrils of her inhabitants. It was ignorance in the authorities of Edinburgh which allowed the plague to desolate their city, while the inhabitants of her prison, from the salubrity of its location, were wholly free from the pestilence. So it is ignorance which, in our own day, consigns to the grave one-half of our children before they have reached the age of five years, and compels many who live beyond this period to fill up their days in sickness and misery.

We look back upon our ancestors with pity for the misery which they endured by the plagues which depopulated their cities, when a knowledge of the conditions essential to health would have led them, as it now does us, to purge their cities of their pestilence-breeding filth. So, in the advance of knowledge, will future generations commiserate us for the miseries which we now endure from that dread scourge disease, because of our ignorance of the laws by which our health and happiness might be secured.

The Creator's works are perfect, and need only to be studied to make manifest His all-pervading beneficence. I hold it a libel on His wisdom and benevolence to suppose that He has created the "beasts that perish" with more perfect organizations, and placed them in circumstances better adapted for the enjoyment of existence than man, whom He has made in His own image, and whom He has endowed with superior intelligence, that he may have dominion over all other creatures, and convert to his own comfort and enjoyment the resources of a world which He has spent countless ages in preparing for his special habitation.

Let this be one of the guiding principles of your life. Write it in letters of gold where it will be a perpetual reminder of duty to yourself and your fellow-men, that no pain or disease comes upon us but as the result of violated law. We may not be able to trace out clearly in every instance the connection between the penalty and the law. Our sufferings may be entirely beyond our control, because the inheritance of our parents' transgression. But however far separated may be the penalty from the violation; however difficult it may be for us, with our limited knowledge, to clearly trace out their connection, yet the punishment follows the transgression by laws as immutable as that by which water seeks its level, or a body when unsupported falls to the ground. I am led to throw out these observations here because in the matter of food, ignorance is almost as universal as it is baleful in its consequences; and because it is in the power of every one to acquire a knowledge of the laws which govern his physical being which will contribute a hundred-fold to his own health and enjoyment, and descend in untold blessings to future generations.

Now, in regard to food, the science of chemistry has proved of incalculable benefit to the human race by giving us correct and definite knowledge, when otherwise we

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would be groping about under the uncertain guidance of feeling and observation.

Observation, for instance, teaches the farmer that growing crops impoverish the soil, and that manure possesses the property of again enriching it. If he be a close observer, he may discover further that certain crops exhaust the soil of properties which certain kinds of fertilizers are specially adapted to supply. But why this is so, he does not know. The science of chemistry gives him the explanation.

It analyzes the various crops of wheat, rye, oats, corn, potatoes, etc., and separates them into their elements, giving the proportion of each with mathematical precision. It analyzes the soil in which they grow, and it finds in it the same elements as compose the plant. In growing, the plant takes of these elements what it needs to build up its structure. If the soil be rich, it may supply a number of crops with the nourishment essential to their growth. But each crop, taking from it a proportion of its elements, it finally becomes exhausted, and must have those elements in some way restored to it, or it is useless for the purpose of agriculture.

Chemistry again analyzes the fertilizers in common use, and it finds in them the same elements which it found in the plants and the soil. The soil possesses the property of absorbing these elements, and holding them in reserve as food for the plant. But in examining the tabular statements which chemistry furnishes of the elements which compose the various products of the farm, it finds that these exist in very different proportions in the different productions. Some are rich in carbon, but deficient in nitrogen. Others are well supplied with nitrogen, but wanting in phosphorus. While others again have relatively a much larger proportion of phosphorus than carbon or nitrogen. Analyses of the soils and fertilizers in common use show equally as great difference in the relative proportion of their constituents.

Chemistry thus furnishes the scientific farmer with a practical and reliable guide in adapting his crop to his soil, and his manure to his crop; while the unscientific farmer scatters his fertilizers with no intelligent idea of the needs of the soil, or the requirements of the crop.

This illustration is complete in its application to the relation existing between the articles in common use for food and the human body. By chemical analysis it is found that there are thirteen elements which enter into the composition of the human body, and that these same elements are found in the food which affords it sustenance. But the relative proportion in which they enter into the articles in common use for food varies greatly. So that it is very important in adapting our food to our physical wants, that we know what elements and what combination of elements compose our bodies as well as the various articles which afford them sustenance.

The thirteen elements which enter into the composition of the human body, may for convenience be combined into three classes, viz.: the carbonates, the nitrates, and the phosphates. The carbonates furnish the fuel, which is consumed in the lungs, and keeps up the animal heat. The nitrates are the special food of the muscles, and the phosphates of the brain and bones. The proportion in which these elements enter into the composition of the human body is about 70 of the carbonates to 14 of the nitrates, and 2 of the phosphates.

Chemical analysis also discloses the fact, that among the great variety of articles which we use for food, there are only two, wheat and milk, which contain all the elements of the human body, and in the proper proportion. Of other articles chemistry says, that butter, sugar, syrup, and fat of all kinds are wholly carbonaceous, or heat-producing, so that if a man were to attempt to live on these articles alone, his brain and muscles would starve. By actual experiment, it has been found that a man could not survive two months on such a diet.

The experience of men in the Arctic regions abundantly corroborates the deductions of science in regard to the heat-producing properties of fat. In that inclement country an ordinary meal of bread, potatoes, and meat is regarded with little appreciation; but whale oil is devoured with

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great relish. The quantity of this kind of food necessary to keep up the animal heat in these cold regions is enormous. An Esquimau will consume a gallon of train oil, or ten pounds of tallow-candles at a single meal. The inhabitant of a tropical country, on the other hand, would be nauseated if set down to a dish of whale-blubber. He desires instead, fruits, which are cooling in their nature, and these being abundant in tropical climates, are wisely adapted to his physical needs.

From these facts, the observation is very naturally deduced that we should accommodate our food to the season. In winter a larger proportion of the carbonates is required, and in summer the cooling fruits and vegetables. But so little is this fact attended to that few people make any change in their dietary except in the fruits and vegetables common to each season of the year. In many farming communities, for instance, pork is a favorite article of diet for men laboring in the harvest-field. The unsuitableness of this article of food in the heat and severe labor of this season, and in any season, must be plainly apparent when we reflect that it is nearly all carbonaceous, or heat-producing, contains elements of impurity and disease, and very little material to supply the waste of the muscles.

I have said that wheat is a standard article of food. Its constituent parts are water 14 per cent., carbonates 70, nitrates 14, and phosphates 2. In a temperate climate, with moderate physical and mental exercise, it would keep the human machine in good running order indefinitely. But in a cold climate, or with severe mental or physical labor, we would need to eat with it articles in which there is a larger supply of the carbonates, phosphates, and nitrates, respectively.

In comparing the chemical analysis of wheat with that of other materials, we find that there are in northern corn, what is equivalent to 89 per cent. of fat or heat-producing material, to 12 of muscle-making, and 1 of material for brain and bones. From this analysis you will perceive the scientific reason why this article is in common use for fatting animals. In buckwheat there are of heaters 75.4 per cent., muscle-makers 8.6, and food for brain and bone 1.8.

From these analyses it will appear that neither Indian corn nor buckwheat is a suitable food for the athlete or the student; for it is important to bear in mind, in adapting our food to our physical needs, that the exercise of any part occasions a waste of its substance in proportion to the amount and severity of the exercise, and a proportionate demand for food rich in material to supply that waste. Thus the student requires phosphatic, or brain-making food, the athlete or the laborer nitrogenous, or muscle-making, and the person exposed to severe cold carbonaceous, or heat-producing. You will perceive, also, the unsuitableness of buckwheat-cakes, butter and syrup, as articles of food except for persons exposed to severe cold, as the buckwheat has a large proportion of heaters, and the butter and syrup are wholly carbonaceous.

In barley there are of heaters 69.5 per cent., of muscle-feeders 15, and of food for brain and bone 4.2. In oats there are 66.4 per cent. of heaters, 17 of muscle-making material, and 3 of brain and bone material. Both of these articles, you will perceive, are excellent food for students, as the former contains more than double, and the latter one and a half times as much brain material as the standard article, wheat. They are also rich in nitrates, and hence are well adapted to supply the waste of muscular exercise. Having a very large proportion of woody fiber also, which is waste, and serves to keep the bowels open, they are specially adapted to persons of sedentary habits.

Beans and pease are very nutritious. The former contain 57.7, 24 and 3.5, and the latter 60, 23.4, and 2.5 per cent. of the carbonates, nitrates, and phosphates, respectively. But the muscle-feeders, which in the cereals are gluten and albumen, are in beans and pease casein, a substance much more difficult to digest than the former, hence these articles are better adapted to laboring men of vigorous powers of digestion than to students.

In regard to meats, I may say, in general, that they are abundant in nitrates and phos-

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phates. The fat, of course, is all carbonates, and the lean largely nitrates and phosphates.

Fish are rich in the phosphates; salmon stands highest on the list, being rated at from six to seven per cent. Fruits and vegetables are all useful in their season. They contain but little nutriment, and hence are well adapted to be eaten with more concentrated nourishment to give the requisite waste and distension to the bowels. The fruits are especially useful for their acids, which aid the liver in eliminating from the system the impurities engendered by a too carbonaceous diet.

The flesh-eater has more need of a liberal proportion of acid-fruit in his food than he who subsists chiefly on cereals.

I class fine-flour bread among the carbonates, and do not advise its general use. As wheat is the standard article of food, it would be very natural for you to suppose that bread made out of wheat-flour would contain the right proportion of all bodily elements. This would be true of bread made out of the pure meal, but superfine flour is chiefly the starch of the grain—which is wholly carbonaceous—most of the nitrates and phosphates having been separated from it in bolting. Superfine flour makes whiter bread than the pure meal, and hence is in greater request among the majority of housewives not versed in dietetic principles.

In regard to pastry and sweetmeats, I would advise you to avoid them altogether. They are chiefly composed of fine flour, butter, and sugar, which are all carbonates. And whether it is from the combination of these materials, or the fat which they contain being changed into an indigestible oil, it is certain that they are not gratefully received by the stomach. Being usually eaten, also, at the close of the meal, when nine out of ten have already eaten enough to satisfy the wants of nature, this rich, concentrated food is wholly superfluous, and disorders the system in its efforts to get rid of it.

Use no tea, coffee, or condiments, except a very little salt. These articles are only stimulants and exhaustive of vitality. Accustom yourself to a uniform quantity of food at each meal, and always rise from the table before you have eaten so much as to experience a sense of fullness.

Finally, with these facts and principles in regard to food and the digestive system before you, you may yield obedience to the simple dictates of frugality and temperance with the certain assurance that they will lead into pleasant fields, where health and its consequent enjoyments will be your sure reward. In following out the instructions which I have given you, you will meet with ridicule from those who have not the self-denial, the independence, or the intelligence to rise above the customs of society, and the prejudices in which they have been educated. To such you may very appropriately say, in the language of Scripture: "Go thy way, eat, drink, and be merry; but know, for all these things God will call thee to judgment."

Nature may appear a very kind and indulgent mother to her presuming children, but they will find in the end, that she is such only to those who obey her commands; that she can not be cheated or deceived; and that she is inexorable in her requirements. Like a strict accountant, she charges every violation of her laws, however grave or trivial, and sooner or later strikes the balance. With some she is liberal, allowing their accounts to run a long time before she requires a settlement. With others she is exacting, demanding frequent payment. The former will be found to have large deposits in the bank of constitutional vigor. The latter, it will appear, have inherited but a limited patrimony. The former may be prodigal of their resources, and have them completely dissipated by the time they reach middle life, or they may use them economically, and have them last down to hoary age. The latter, like a man who has inherited an encumbered and exhausted farm, must bring to their poor inheritance knowledge, skill, and good management, or they will sink beneath the weight of their difficulties and embarrassments.

You are fortunate in having received a good inheritance. Use it wisely and Dame

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Nature will have no occasion to strike a balance, till in a happy old age you may look back upon a long life filled with usefulness and true enjoyment, and contentedly await the final settlement Affectionately yours,

PATER CONFIDENS.

ON DISEASE OF THE LARYNX AND THE LARYNX MIRROR.

AS long as the larynx cavity was inaccessible to the eye of the physician, his knowledge of the diseases of this organ, which are frequently of the most dangerous character, was necessarily imperfect. The invention and application of the larynx mirror removed the chief barrier to correct diagnosis, and now one is enabled to inspect even the depth below the wonderful organ of sound and voice, to look down into the great windpipe or trachea which itself is often the seat of various diseases. This new and direct examination has greatly advanced the therapeutics or the method of treating throat disorders. The old internal treatment by medicines has become quite superseded by local application, the remedy being introduced with a brush or other instrument directly to the diseased part. In this way it is now possible to cure, successfully, ailments of the throat which were formerly deemed incurable because of inaccessibility.

A few points in regard to common diseases of the throat may be of service here.

I. Chronic catarrh or inflammation—chronic hoarseness, which is mostly accompanied by an irritating cough and the discharge of a tough, slimy expectoration of phlegm, and by difficulty in breathing. In a moderate stage the voice may be a little hoarse, but is always rough and without a pleasant sound; the patient suffers with superfluous phlegm in the throat, and finds it necessary to clear the throat after speaking. In violent cases the voice is continually hoarse, the obstruction with phlegm very severe, the sensations painful, and the disease at such times is difficult to cure. The trouble owes its origin almost in every case to an acute catarrh which has not been properly treated.

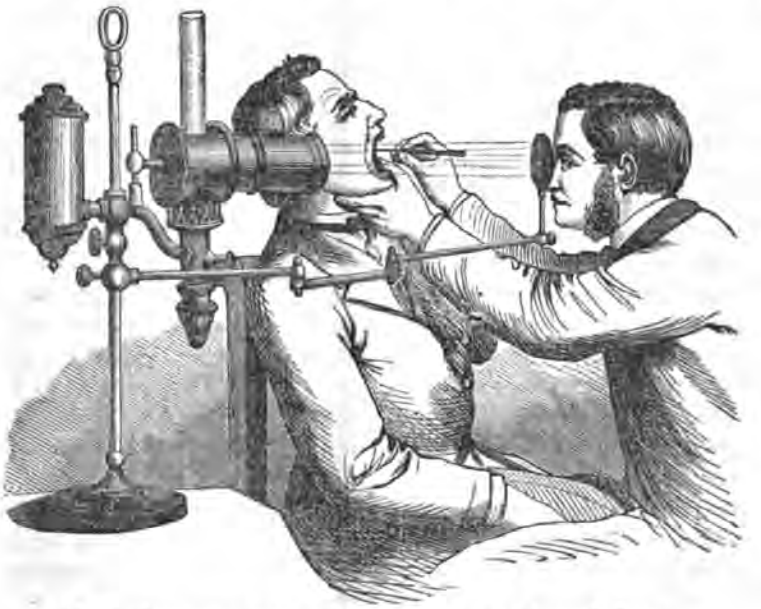


Fig. 1.—Operating with the Laryngoscope and Tobold's Lamp.

Everybody knows how often colds are caught in winter and spring, accompanied by hoarseness, cough, etc. Such a cold, which a little care would dispose of, is too

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often neglected and continues on for weeks or months, that is to say, it becomes chronic, and a stubborn disease, which even in the most fortunate case, may cause a permanent injury to the vocal organs, through ulcers or swelling and paralysis of the voice ligaments. But the main danger lies in an extension of the inflammation of the larynx downward through the windpipe until the lungs are reached and consumption threatened.



Fig. 2.—A View of the Larynx.

a. Epiglottis. *b.* Vocal cords. *c.* Cavity of larynx. *d.* Side wall of cavity.

II. Consumption of the larynx. This occurs usually in case of a simultaneous disease of the lungs, and it is the most dangerous disease of the throat. In consumption of the lungs there appears often hoarseness, irritating cough, pain in swallowing, etc., because the same process of destruction of the substance of the larynx is developed in it as occurs in pulmonary consumption. Fortunately this much-feared disease seldom appears on otherwise healthy persons, but almost always simultaneously with already existing disease of the lungs.

He who is affected with catarrh is warned to guard against pernicious influences of climate and air, and especially are those suffering with complaint of the chest cautioned to avoid all smoke, dust, and draughts if they would save themselves from disease of the larynx. The invalid is also cautioned against indulgence in alcoholic liquors.

III. Another class of diseases of the throat is made up of those which are nervous in their nature; they are usually pertinacious, but not dangerous sicknesses; they are also characterized by a roughness of voice, its occasional loss, and an inclination to cough; a feeling of pressure and dryness in the throat. In such cases there is less of the catarrhal trouble than of a relaxation of the vocal cords and ligaments. Such a feebleness or irritation of the voice is frequent with singers, ministers, and teachers, who strain the voice much.

The technique of the examination of the larynx is in the main as follows: The light of a large flame is thrown either direct by means of a large concave mirror, or, by having it concentrated through a system of lenses, and a small concave mirror (Tobold's lamp, fig. 1) into the wide-opened mouth of the patient, so that the throat (pharynx) is clearly illuminated by the pencil of light. The physician then holds a small, round, flat mirror (fig. 3), which is fastened to a long handle in such a way on the rear wall of the mouth, that the rays, falling through the mouth, are reflected in the larynx cavity as soon as the larynx valves are opened by the pronunciation of the long vowel *a*. The larynx being perfectly illuminated, the observer can discern, in the reflections of the small mirror, all the parts as far down as the windpipe.

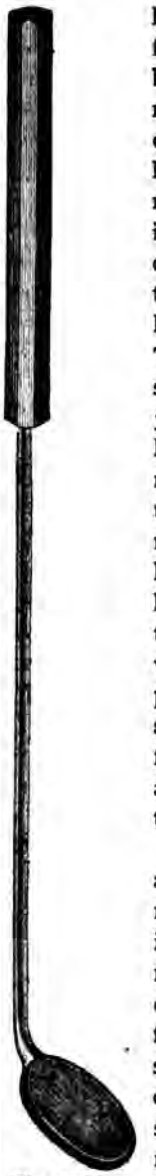


Fig. 3.—The Larynx Mirror.

Fig 2 shows the larynx in a healthy state. Sunlight is more favorable for an examination than artificial, and it may be thrown into the throat either directly or through a flat mirror. In this way one succeeds without difficulty not only in distinguishing the state of disease, be it inflammation, swelling, ulcer, etc., but is assisted in applying his treatment. By the illumination of the larynx it is possible to introduce instruments in order to excise and remove small ulcers (polypi), or to take out any stray substance, as small bones, fish bones, etc., or finally to eat up by the aid of caustics, ulcers which may spring up in consequence of cer-

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tain sexual affections. Furthermore, the use of the larynx mirror enables the physician to use electrical treatment, which may be applied in cases of paralysis of the vocal cords, which sometimes occurs after diphtheria or a great exertion of the voice, or by a nervous hoarseness.

Working-men suffer more than others from catarrhal disorders, because of their exposure to the causes of lung disease, but their experience of the more painful stages may be attributed to the carelessness with which they regard the trouble at the start; and further, in the aversion with which they look at scientific treatment. Not until the most favorable time for a cure has passed, and money has been expended in useless quackery, do these seek good medical assistance, and then it is generally too late. Inhalation of tannin or common salt has, in the beginning, proved very effective in relieving the throat irritation, and later experience has proved that in consequence of their antiseptic character, carbolic and salicylic acids when used at the beginning of the sickness through an inhaler are beneficial—though in an advanced state of the disease they are not remedial—because they stop the ulcerous and poisonous secretions of the mucous membrane and consequently overcome rationally the cough and phlegm. At all events, they are more effective than the customarily used physics, which only mitigate temporarily the coughing irritation.

Self-evidently this inhalation should take place under the direction of a physician and for a length of time, but only at the beginning of the sickness, and before any ulcerous destruction in the larynx or the lungs has taken effect. A principal fault in the diet of most patients is, that they try to overcome the deficiency of strength and the loss of the appetite through stimulants, sharp, pungent, and much salted food or spirituous liquors; this is all wrong and very injurious. Such stimulants increase the disorder of the stomach which accompanies the trouble, and the food gives little or no benefit to the body. Nourishing food is certainly necessary, but it must be easy of digestion. The preservation of the appetite is effected best through a proper diet. DR. KLEMM.

THE LIFE OF A MILLION.

THE Registrar-General has published a very interesting supplement to the thirty-fifth annual report, in which he estimates the march of an English generation through life. He starts with the assumed fact that 1,000,000 children are born, and of these he informs us that 511,745 would be boys, and 488,255 would be girls. This disproportion of the sexes is very speedily redressed, for the evils with which infants struggle in their cradles are more fatal to the boys than to the girls. The most fatal five years in the life of the generation is that when they are entirely dependent on careless nurses or ignorant mothers, for one in every four of the million, or 141,387 of the boys and 121,795 of the girls, will die before they are five years old. The million is thus reduced to 736,818. The next five years the deaths are few, and they are fewest of all in the third five years, that between the ages of ten and fifteen. This full growth of childhood seems to be the healthiest period in the whole life of a generation, but somewhat more so for boys than for girls. Then follow five years of somewhat more liability to disease and death. This liability is still further increased in the next five years by consumption and other ailments incident to the period when growth has ceased. But in this whole march of twenty years through childhood and youth, our million, which was decimated twice over in the five years of babyhood, loses but 102,773 of its number, and an army of young men and women in almost equal proportions, and 634,045 in total strength, marches over the dividing line of the first quarter of a century. During the next ten years less than one in ten of the whole will die, and there will still be 568,993 living at thirty-five years of age, when two-thirds of the women will be married. The next ten years will be more fatal than the last, and of those who saw thirty-five 66,078

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will fail to reach forty-five, and of the million who started, only 2,915 over half a million will attain that period of life. From that point the rise of the death-rate at each decade is terrible; 62,052 died between twenty-five and thirty-five; the number increased to 66,078 between thirty-five and forty-five; but between forty-five and fifty-five the number of deaths rises to 81,800; and from fifty-five to sixty-five 112,086 will have fallen. The number who set out over the next reach of ten years is 309,029. But the march for the next ten years is a Balaklava charge into the jaws of death, for nearly one-half of them (in actual numbers 149,905) will be left behind in the grave before those ten years are over, and only 161,124 reach their seventy-fifth year. This remnant rapidly diminishes, and at eighty-five only 38,565 remain. Another ten years and there are on the field only 2,153 people of venerable age, of whom nearly nine out of ten will pass away without reaching the centenarian's fame. The number which will probably cross the threshold of a second century is 223, but none of these reach 110; for the last of the million will probably come to his grave in his 108th year.—*London Paper.*

FEVER: ITS NATURE AND TREATMENT.

MEDICAL writers and teachers, from earliest historic times, have regarded fever as the great enemy to human life. Prof. Gregory, one of the most celebrated authors of modern days, says that eight-ninths of the human family die of fever, in one form or another, and nearly all others assent to his assertion.

How many strong, healthy men and women are stricken down and burn and burn, and die with typhoid fever, or recover to be mere wrecks of their former selves. We meet persons, every day, not more than half alive, who date their weakness, inefficiency, and often suffering, back to the time when they had "the fever," and we all remember friends who fell victims to this terror of our race. Scarlet and diphtheritic fevers destroy thousands of our bright-eyed, rosy boys and girls every year, or leave them deaf, blind, or crippled for life. Variola fever is so much dreaded, that tens of thousands of our otherwise healthy children have their blood filled with poisonous humors communicated with vaccine virus, which is supposed to be a preventive. How many die, yearly, of bilious and lung fevers, and what terrible havoc is made by that slow fever, consumption. A fearful proportion of the children born in this country die, under two years of age, of that scourge of young vitality, cholera infantum, enteric fever; and nearly every death in our broad land, except those sudden deaths occasioned by accidents, can be traced to fever or inflammation. As to what fever is, medical authors have never been agreed, except in one particular. They have nearly all regarded it as an enemy to life. Dr. Z. Collins McElroy, however, in a paper read before the Muskingum County Medical Society, at its session in the city of Zanesville, Ohio, October 12th, 1876, says: "Medical text-books and oral instruction in early life taught me that the fever process was the work of an enemy; and that opinion was held a good many—far too many—years. Arriving at a conclusion exactly the reverse of my educational training, was a very slow process. It was not one great fact, but a great many facts that now compel me to look at the fever process as the work of a *friend to life*, and always in the *interest* of life; and this conclusion, with a full knowledge that a large number of human beings die during the progress of a fever." Such is the honest testimony of this distinguished medical man, who said that "while he regarded the fever process as the work of an enemy to life, he had *treated it too much*," and that he would confess, "since he had come to understand the nature and purpose of fever, he *no longer pickled his patients in whiskey;*" and that "in studying the progress of a fever process in any patient, he felt he had a higher duty to perform than in trying *to cure them with drugs and medicines.* He does not mention, however, the course which

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duty points out to him, except in this negative way. But although this physician and some others have come to regard the fever process as a friend to life, and therefore discard all drugs that have a tendency to reduce the fever; the great mass of the medical profession to-day, of all schools of practice, regard fever as an enemy, and treat it as such. Notwithstanding the fact that a large majority of physicians practically adhere to the idea that fever is an enemy to life, yet the ranks are badly broken by doubt and indecision, for it is an unquestionable fact that by far the greater part of those who get sick with fever recover, although the "smell of fire" may ever afterward remain upon them. What, then, *is* fever? We shall clearly see, after considering a few physiological facts; facts that lie at the foundation of all life and motion in the higher organized beings. The first condition of life in the human family, that which commences with the primitive cell formation, and continues until the last beat of the heart, is heat at 98°. This heat is called vital, because produced and maintained by the *life force* in the organism. Every substance in nature possesses certain inherent properties that are imical or inimical to the vital force. Those which are agreeable, excite it in such a manner that the heart is caused to beat regularly and with sufficient force, and the lungs are made to respire with such frequency as will properly aerate the blood. These substances are called hygienic, or health-producing. They are water, air, and food, of good quality and sufficient quantity, with everything else that may be summed up as favorable to our organic life. If the life principle were influenced only by hygienic means, the vital heat would always be normal, and every depurating organ would perform its function to perfection. But when the vital principle is excited by anything that is not congenial to it, there is a powerful resistance set up at once, and it is expelled from the system if the vital force is able to accomplish it. Vital resistance to whatever is inimical often increases the action of the heart and lungs to double that which is normal, and the heat is raised far above the normal standard. Let us dwell on this fact for a moment, as it contains the key to the whole subject of fever. Something inimical to our organic life, the scarlatina germ, for instance, is taken into the blood through the lungs. This germ, though almost inconceivably small, being inimical to life, is large enough to cause vital resistance. That resistance is manifested by exalted action of the heart and lungs. That increased action of the heart augments the friction caused by the passage of the blood through the vascular system, and consequently raises the vital heat, which is added to by the more rapid aeration of the blood in the lungs, another heat-producing process. Now in the exanthematic poisons, such as scarlatina, small-pox, measles, etc., there is a certain incubating or hatching-out period required, and this is the way it occurs. The infusorial germs are inimical to life. They are taken into the blood through the lungs. The life force increases the action of the heart and lungs in order to drive them out of the system through the depurating organs. That exalted action of the heart and lungs increases the heat, and that excess of heat is just the condition required to develop these germs into living, active, voracious organisms, that, in the language of Prof. Tyndall, "finding lodgment in the body, increase there and multiply, ruining the tissue upon which they subsist, or destroying life indirectly by the generation of poisonous compounds within the body." Fever, then, is vital resistance to anything inimical to life, and the consequent excess of heat; and the causes of fever may be as numerous as are the substances or forces that are inimical to life. The most indubitable proof is now spread broadcast over the world, that elevated temperature, excessive heat, is the direct cause of the development of these infusorial germs into organic structures. Remove the heat, then, as fast as it is produced by the exalted vital action, and the germs and infant organisms are cast out before they have time to prey upon the fluids and tissues of the body. For twenty-five years I have had the satisfaction of treating scarlet fever, diphtheria, and measles, on the principle of keeping the vital heat at

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the normal standard, and have never seen the slightest desquamation, or peeling off of the cuticle, nor any secondary evil results where this first indication of nature was followed. Heat itself, above the normal standard, is inimical to life. There may not be a particle of malarious or infectious poison in the blood, and yet if its heat is raised to 110 or 112° for a few minutes, death is the result. Heat and cold, forces in nature which, when properly blended, constitute the temperature necessary to vitality in the hot-blooded animals and man, when applied in great excess, cause instant death; when the excess is moderate, the vital force is slowly exhausted in its efforts to protect the organism from damage. What can be more clearly self-evident, then, than the proposition that health and disease are simply antithetic terms, relating to vital action; health being that action, or manner of motion in the organism, which is occasioned by such excitement of the vital principle as proceeds from those substances, forces, and conditions that are agreeable to it, and disease being that excitement or stimulation which is occasioned by anything inimical to life. The causes of disease or vital disturbance are even, in number, with whatever is inimical to life. The first sensible thing to do when we find vital disturbance or disease, is to discover the cause and remove it, if practicable; the next is to attend to hygienic conditions.

Now, aside from the fact just stated, that the *first* condition of life, and of course of hygiene or health, is heat at 98°, produced and maintained by normal vital action, we have the testimony of medical men of all times that *excessive heat* is in some way connected with all the phenomena of disease. Therefore, the *first* hygienic condition to look after is the regulation of the vital heat. The whole medical world is just now becoming alive to the fact that this regulation of temperature should be done with water. One of Europe's most honored and successful practitioners, Dr. Louis Gignoux, of Lyons, France, in speaking of the treatment of typhoid fever patients says: "The baths are all-sufficient, medicine useless." It being settled that in all fevers, or those vital disturbances where the heat is excessive, the excess of heat should be removed with water at some temperature lower than that of the blood, the question arises, how shall that be done so as best to secure a normal temperature throughout the organism? To answer this question fully, would include the whole subject of Hydro-therapy. But a few general principles can be mentioned here, and directions given, that may serve as a foundation for rational practice. First, in all cases of vital disturbance which result in excessive heat, the inimical thing directly stimulates the nervous centers, and the excess of heat should be removed by means which do not stimulate the nervous extremities. Very cold water will rapidly reduce the excessive heat, but it is, of itself, a powerful stimulant when applied to the skin, which contains the nervous periphery. A knowledge of this fact enabled me, in 1849, at Nashville, Tennessee, to save several cases of cholera that were cold to the sense and pulseless at the wrist, by pouring a large amount of very cold water over the trunk, and immediately thereafter wrapping the patient up in hot wet blankets. This toned the nervous system, and invited the blood to the surface, thus relieving the internal organs of their pressure. The same thing in effect was done by Dr. W. K. Bowling, of Nashville, Tennessee, in 1873, during the cholera epidemic of that year. He rubbed the skin of his cholera patients with ice and immediately wrapped them up warmly, when reaction followed and they were saved. But in those cases where the heat of the system is excessive, that heat should be removed by water at a temperature that will be as soothing as possible to the already over-excited nervous system. I practically learned this at the bedside of a typhoid patient about twenty-five years ago, where I had the unconscious and apparently dying man taken from his hot feather bed, upon which he had lain for three weeks, and placed on a fresh straw bed, where I constantly dripped tepid water upon him through a folded sheet wrapped around the trunk. Quieting? In one hour's time he had commenced to have fifteen or twenty minute intervals of refreshing sleep, whereas he had

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been in a waking delirium for three days previous. Under this treatment the morbid symptoms all gradually disappeared, and within six days he was completely convalescent, and clothed in his right mind. Since then I have reduced high fevers by using water whose temperature was as nearly up to that of the blood as was practicable. But it requires a great amount of water at 90 or 95° to keep down the heat of a patient in typhoid or other fevers where it runs up often to 106°. I had great trouble about this matter, which usually resulted in the use of water at a much lower temperature generally unpleasant to the patient when first applied; but the whole difficulty was obviated in the use of the fever bed or bathing cot, a description of which, with the cut, was published in the last number of the JOURNAL. Upon that cot, water of any desired temperature can be used, and during any length of time; for the cot is so constructed, and of such materials, that it makes an excellent bed. G. W. KIBBEE, M.D.

THE BRAINS OF CRIMINALS.

UNDER the above heading there is going the rounds of the press a short article accredited to the *London Medical Examiner*. It relates to the researches of a Dr. Benedict, of Vienna (I infer) on the brains and skulls of criminals. Dr. B., it states, has discovered that the brains and skulls of criminals actually differ in shape from those of the better class of people! and he has been able to classify the principal forms of deviation from the normal type as follows: "(1) absence of symmetry between the two halves of the brain; (2) an excessive obliquity of the anterior part of the brain or skull—in fact, a continuation upward of what we term a sloping forehead; (3) a distinct lessening of the posterior part of the skull in its long diameter, and with a diminution in size of the posterior cerebral lobes, so that, as in the lower animals, they are not large enough to hide the cerebellum."

The first mentioned peculiarity is not very important. More or less "absence of symmetry" between the two hemispheres is frequently observed in individuals having no marked trait of character referable to this peculiarity of brain. It may result from injuries, insufficient nutrition, or lying habitually on one side in sleep. If the difference be great, then it may be associated with mental disorder of a serious nature. The second form of deviation is a very important one, and is almost invariably present in criminals of the lower class. With reference to the last mentioned form of deviation, I would say it is most common in criminals of a certain class, and the head may appear thus formed because of an actual deficiency in the higher social organs, or on account of excessive development of the posterior and cerebellar region.

But these facts are just what Dr. Gall and other scientific phrenologists taught in their writings and lectures nearly three-quarters of a century ago; and yet the doctors of to-day are publishing the observations of Dr. B. as late discoveries in physiological science! It is noticeable that some of the "regulars" seldom mention the word Phrenology, except in derision, in their accounts of observations or discoveries in reference to the brain; perhaps because they recollect their rank opposition to the science at its inception, and do not now wish to admit that they were in error, but prefer to *discover* its facts and principles over again, thus hoping to secure to themselves the honor due to another. But in this they will certainly fail. A fact, however, which phrenologists are glad to know is, that almost all the observations, experiments, and discoveries thus far made by investigators in all parts of the world are, according to the reports, in great part confirmatory of phrenological principles as taught by its scientific advocates.

F. E. ASPINWALL, M.D.

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GROUNDWORK OF HEALTH.

No. II.

CAPITAL only in money is dead labor. It is different from any other form of capital, and the least pardonable form of the oppressive myth and fiction by which labor is hoodwinked. The laborer is now kept in a chronic fright lest this defunct product of his own loins should rise up against him. How ridiculous! Who will say the days of feudalism are past? The tyranny of old is rampant to-day in a transparent mask; and our liberties are filched by piecemeal through insidious, cultivated tastes; by which the few manage to thimble-rig the many out of their birthright for less than a "mess of pottage." Fashion, habit, custom, the so-called social order, form a web, a net, that covers humanity like a pall; and that terrible misnomer called civilization is a more degrading form of slavery than any on record.

These faithful delvers after truth, that through poetic license are wont to divulge occasionally (and their testimony is unanimous), making a most damning verdict, speak so beautifully true in "Isles of the Amazons":

> "I know upon this earth a spot
> Where clinking coins, that clink as chains
> Upon the souls of men, are not;
> Nor man is measured for his gains
> Of gold, that steam with crimson stains
> Upon the souls of men."

It has been said that slavery was a necessity of this age; let us qualify this proposition. In doing which we have recourse to the new dictionary, not yet in print, but in preparation, wherein things are called by the name which actual practice gives color to. In this new and useful addition to lexicography, instead of occupying two inches space to explain the derivation, root, etc., as in "Webster's Unabridged," the word "financier" is defined by a single word, and that word is "thief." So with the word "civilization," in the same new work, it is defined by one word, "slavery." Thus it will be seen that we were not far wrong in stating slavery to be a necessity. If modern civilization be indispensable, slavery is unavoidable. Therefore the philosophers shaped their experiments accordingly. It is to be hoped that we are approaching an age where such philosophers as Sophocles will not be required, when none of those conditions will be present rendering it expedient to make black appear to be white, or the truth a lie.

Given all the constituents of the fluids and solids of the human form, embodied, it yet requires the vital spark; or else it is no better than a lump of clay. Thus it is with capital. We may have all the gold, silver, iron, steel, machinery, material of all descriptions, and without the leaven of human labor they are worthless! What follows? Human labor is the one ingredient in the alembic of society that transmutes all the baser to gold; labor is therefore of priceless, yea, inestimable value. Yet mortals essay to purchase it. Not only endeavor to buy, but to cheapen, cheapen, cheapen, until this priceless jewel is bartered for husks. Is it, then, a wonder that the saying is common that all have their price—all virtue, all honor, all manliness, all womanhood, all godliness, is for sale? Nature is not thus! It follows that man, by abnormal surroundings, has been forced out of his natural orbit, and is trammeled in grooves of art to his undoing, leaving barely the semblance of his true nobility. Having found the groundwork of health, let us build thereon, and perchance the All-seeing Eye in scanning the superstructure may recognize the handiwork of His children.

It is only because those are found who are superstitious enough to accept the dead and useless token of labor for its reality, that the tyranny of the feudal age still finds hold for its tiger-fangs. So long as we tinker at the symptoms of the disorder and leave the cause, the root, untouched, it continues to send out new shoots. Health of body and mind demand proper food. Tigers feed upon the warm blood and flesh of their prey; if we desire to conquer the tiger within us, we

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must cease to pander to carnivorous tastes and appetites. Monopolists are only the natural outgrowth of improper diet. So with murderers, thieves, lunatics, and madmen. In fact, the majority of the ills that afflict mankind can be traced to deviations from the normal status of the leading anthropoids. So long as superfluous tastes and habits are indulged, just so long will slavery be a necessity. The normal simplicity of the best Grecian period is the nearest exponent of our theme. The period of Hyperdes, and Phrynee, who, although the perfection of the graces in person and mind, was condemned to death by the Areopagi, for ridiculing the Eleusinian mysteries. Her lover accompanied her before the judges, and failing in his eloquent pleadings to move them to clemency, as a last resort drew from the shoulders of his beloved the mantle that draped her form—leaving her exposed in their presence—exclaiming, "Destroy, if you can, the masterpiece of Nature!" Who shall say the halcyon days of yore may not return, and the children of men wander again in the gardens of the gods? F. M. S.

THE SWEET POTATO.---Concluded.

BEETS, CARROTS, AND RADISHES.

BY JULIA COLMAN.

The Sweet Potato, Varieties, Cooking—Other Tubers—Beets, Value, Culture, Cooking—Carrots—Radishes.

Recipes.—Beets, Boiled, Pickled, Hash, Greens, Baked—Boiled Carrots—Carrot Stew.

VARIETIES.

IN our markets the Yellow Nansemond usually takes the palm. It is of a bright, clear yellow, large in the middle, and tapering to a point at each end; flesh, yellow, sweet and dry. It does not require so long a season as many other varieties, and has produced well in Maine and Canada. The Red Nansemond is said to be the best red sweet potato for Northern culture. But the American Red is more prolific and more certain, though not quite so good in quality, and might succeed in localities where the other would fail.

The white varieties are not so sweet or so desirable in other respects as the yellow or the red. The Yellow Carolina is a very sweet, sugary potato, and for many years commanded the highest price. New varieties are procured from the seeds. These are black and triangular, somewhat like those of the Morning Glory, but they are rarely produced in the open air at the North.

This valuable esculent, which has never yet been greatly troubled with blasting, mildew, or pests, would, we believe, abundantly repay experiment, analysis, and much closer observation than has yet been given to it. We hope some of our Southern or California Yankees will turn their attention in this direction, and see what they can do to improve it.

COOKING.

Baking is the favorite method of cooking the sweet potato, and for the sugary, waxy, kind it is certainly the best. Accordingly, baking and roasting prevail at the South, where they are often eaten cold, and it must be confessed that they are far preferable to a cold, cooked Irish potato. In Mexico they are served like sweetmeats. A very dry sweet potato is, to many tastes, better boiled or steamed than baked, and it is more economical. Another excellent method is to boil or steam them, for ten or fifteen minutes, and then finish them in the oven.

Whether boiled or baked, they are always cooked in their skins. It is not only a difficult matter to pare a raw sweet potato, but it is difficult to cook them when pared and have them look fair afterward. Any contact with iron, stains them. Probing with a steel fork leaves ugly-looking black streaks. It is best, therefore, to try them with a silver or plated fork, or in baking, to feel them through a napkin with the fingers. When boiled, they are peeled before serving. A silver or plated knife should be used. It is more desirable to peel them before serving than Irish potatoes, because they are more liable to soil the fingers. This does not apply to the baked potatoes, which are

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usually eaten with their skins, if properly baked.

The disposal of the skins is a troublesome point, unless we import that neat custom of our island neighbors and place little plates beside each cover to receive the peelings. As it is now, we litter the table-cloth with them, replacing them on our plate when we have done with it, or keep them on one side of it all the while we are using it. Although this is a better custom than that prevailing in the times of Queen Elizabeth, which tossed all the fragments on the floor, yet it will soon, we hope, be superseded by placing a dish by each plate to contain all the débris of our food. I should prefer a deep-colored glass dish, smaller than the finger-bowl, but shaped like it and harmonizing with it in color.

There is a curious difference between white and sweet potatoes in the time required to cook them respectively. Sweet potatoes of about the medium size, cook in about the same length of time required for the white potatoes, but the small ones require less time, and the large ones require more. So it happens, that in cooking Irish potatoes, if you put the larger ones at the bottom of the kettle or on the hottest side of the oven, all will be done at about the same time; but with sweet potatoes, the smallest ones will require to be dished first. Hence, the recipes usually say, "Choose them of uniform size;" and it is better to cook the small ones together, and the large ones also by themselves, than to mingle the sizes.

Since there are many people who do not care for sweet potatoes or who often prefer the Irish, especially with meats, it is customary to cook both kinds at once, if there are to be strangers or visitors at the table. For the private family, the cook knows their tastes and will, of course, be guided accordingly.

In two respects sweet potatoes have the advantage of white potatoes; they are seldom or never mashed, and perhaps partly in consequence of this they are more frequently eaten without salt, pepper, melted butter, and other hurtful condiments. So far as we are able to judge, it would be greatly to our advantage, dietetically, if we could, in a still greater degree, make the sweet potato take the place of the Irish potato in the northern part of these United States.

OTHER TUBERS.

In view of the repeated failure of our staple potato from various causes, it would seem the part of prudence to be on the lookout for something else to take its place. It would be even better if we could have several other things to use in a similar manner, and which we could consider, in some degree, as substitutes, since if one failed we might have others upon which to lean. This seems to be the economy of Providence, and perhaps we can not do better than to follow that lead.

The Chinese Yam was introduced some time since as a valuable esculent, but if it had been ever so desirable for the table, it did not stand any chance of favor with the potato diggers; for it went so far and was gone so long as to lead to a suspicion that it had started for a visit to its old neighbors. Two or three feet in length, with a very direct downward tendency, and the largest end at the bottom, suggested something too much akin to sapping and mining to suit ordinary farming operations.

The Ysano, from Peru, has also recently claimed our attention. It produces an abundance of red and yellow tubers, small, but pretty. But "when cooked like potatoes they are not eatable." Very well we learned when the potato was introduced, that all things were not to be cooked alike. We think it does credit to the inventive genius of somebody that a way has been found of making the Ysano eatable, by cooking and then freezing. It is now sold in the streets of La Paz by dealers, who wrap it well in woolen and place it in straw to keep it frozen. It is sopped in treacle and then eaten, in hot weather, as a refreshing delicacy. It would not take the place of potatoes to eat with hot meat. We think it would be easier to dispense with the hot meat. Perhaps in the good time coming, that is the manner in which we shall solve this vexed potato question.

We hope, however, that several other things will yet be found in some unexplored, or partly explored, region which will give us

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the desired variety. It is said the Siberians cultivate a lily, the root of which they roast and eat as we do the potato. In tropical regions the Yucca Utillissima is utilized in a similar way. If it be as hardy as the Yucca Filimentosa, which endures the winters in this latitude, it is more so than the potato. But we need not go so far away as either of those. The "tuberous-rooted chervil" can be had at the seed-stores—a root nearly the size and form of an Early Horn carrot. The flesh is white, farinaceous, and of a flavor intermediate between that of a chestnut and a potato. In our own waste places we have the Chickling Vetch, Lathyrus Tuberosus, with tubers which weigh from one to three ounces. These are very farinaceous, and when cooked are highly esteemed, resembling roasted chestnuts in taste. Has any one tried the culture of these? Our potato, when wild, could scarcely have been larger than that. It has a running vine, a small, bean-like leaf, a cluster of fragrant, purple, labiate flowers, a pod an inch long, and can be readily verified by the botanical description. I have often found it when out botanizing and mused over the possibilities of its tuberous root. If I had it now, I should plant it and cook the product. Who will look this up for us and try it?

BEETS.

We are again on classic ground, introduced, strange as it may appear, by the unromantic beet-root. The Greeks and Romans were fond of beets; the former especially of those which came from Boeotia. We can hardly refrain from the suggestion that hence came the name also. It must have had some very ancient origin, for all the modern tongues follow the ancient Greek *Beta*. We are well aware of the venturesome nature of such philological conjectures, and so we will not insist upon it, though it seems far less fanciful than the derivation given by Columella, namely, that of the resemblance of the root to the Greek letter B.

The Greeks had two sorts, the dark and the pale. They gave preference to the latter; and the physician Dephilus placed it far above the much esteemed cabbage. He recommended it to be eaten boiled, with mustard, and considers this food as a very excellent vermifuge. Martial called it an insipid dish; but with Apicius, a much higher authority, it was a favorite. Here is one of the recipes of the latter: "Boil over a slow fire some very tender white beet, add leeks; when cooked, put into a saucepan with pepper, gravy, and raisin wine; take care that the ebullition be regular, and serve." You perceive the delightful uncertainty about the dressing, etc. We suppose, however, that the beets must have been peeled between the cookings, especially if, as in the following case, they were tied together before they were washed: "or, if you prefer, tie in a bundle the beets you have carefully chosen, wash, throw in some nitre, and boil in water; then put into a saucepan with sun-raisin wine, pepper, cummin, and a little oil; at the moment of ebullition add a little gravy and coarsely-chopped walnuts; cover the saucepan for an instant, uncover and serve." In another case, he makes a pulp of leeks, in which he heats the root after it was boiled, adding coriander, cummin seed, flour, wine, gravy, oil, and vinegar. It hardly requires a trial to show that our tastes must be quite unlike to those of these ancient fussers.

Indeed, we by no means consider it to be a matter of prime importance to us what they ate or how they cooked it; but when we read such recipes as the above (and these are much more sensible than many that might be quoted), we are tempted to congratulate ourselves on the advance of the race in the important art of cookery. It is, of course, much easier to do this when we can be sure of our acquaintance with the materials, and we have no reason to suppose that there has been any great change in the beet. Again, it is pleasant to know that while these people searched the world over, as they thought, for all sorts of delicacies for the table, and this of itself had no small share in the political history of the world, yet there have been reserved for later times valuable discoveries of varieties in various new countries, besides great improvements in culture. The beet was found wild in Egypt and along both shores of the Medi-

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terranean. It is not a tropical plant, although it will not endure any considerable degree of frost.

VALUE.

Beets assist in making a variety; they are palatable and pretty; they have more nutrition than most of the other roots, though not so much as the tubers. If properly cooked, they are not indigestible by the active stomach of a healthy person. We think that usually the trimmings with which they are eaten—the vinegar, oil, and melted butter—are much more hurtful than the beets. Dr. Beaumont states that it requires three hours and forty-five minutes to digest; while carrots require but three and fifteen minutes, and turnips two thirty-two. We should not recommend beets for invalids, and if we were acquainted with any variety which might properly be called "a good vermifuge," we should not recommend that for food at all.

They contain large proportions of mucilage, starch, sugar, and alkaline salts. The white sugar beet is much used in the manufacture of sugar in Europe. This manufacture is much more difficult than the manufacture of cane sugar; but continued effort has overcome all difficulties, and now, when fully refined, it can hardly be distinguished from cane sugar, with which it competes in various markets on about equal terms.

CULTURE.

Beets are very exacting about the soil in which they grow. If it be not a deep, light, well-worked sandy loam, you might almost as well not try to raise beets. If thin and gravelly, the roots are apt to be tough and fibrous; if cold, wet, and clayey, they are watery and coarse; if stony, the roots of the long varieties are apt to grow crooked and forked. Coarse, strawy manure will produce a similar result. Salt, loam, guano, and bone-dust are good fertilizers, and a surface-dressing of ashes aids in developing the young plants.

For early use, sow the seeds as soon as the ground can be worked. For autumn use, sow about the middle of May; for winter use, early in June. They should grow rapidly, in order to be tender and crisp. Sow in drills, and thin to one in a place. As they grow, pull the largest and leave the others to fill the vacancy, which should be for the ordinary garden sorts five or six inches.

The smaller sorts are more likely to be tender and sweet, though many of the field sorts are good for table use if taken young. Every good seed catalogue gives descriptions by which you can judge of what you want. The later sorts must be harvested before severe frost, or they will be likely to decay at the crown. Cut the leaves at the distance of an inch from the root; carefully avoid breaking the skin of the root. Pack away in moderately moist earth or sand, and keep cool, without freezing, until spring. This prevents drying and wilting—the prevailing fault in winter-kept beets, by which they are frequently spoiled.

The Mangle Wurtzel is a larger variety of beet, used almost entirely for feed. The roots are shaded in rings of red and white. Swiss Chard is also a variety of beet, the leaves of which are much used for greens, and the leaf stalks are often dressed like asparagus, making an excellent dish.

Boiling is the standard method of cooking beets. The large roots require much more time than the small ones. The only rule is to time them, and you will soon learn about what allowance to make for the size. Baking is a favorite method with some; but it requires large fresh roots, and it is much more trouble as well as more wasteful both to cook and to dress them in that way. Young beets with their tops make excellent greens in their season; and if the weather be warm and moist, so as to induce rapid growth, the leaves will be good when the beets attain a size suitable for cooking by themselves. People often throw these away and cook greens that are not nearly so good.

CARROTS.

The Greeks and Romans had these both wild and cultivated. They grow very readily and are often found running wild from many an old garden plot, but they soon lose their delicacy. They are more hardy than beets, but the sorts usually grown require to be housed before hard frost. The cul-

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ture required is in most respects the same as that of the beet. They are perhaps nearly as nutritious as beets, certainly more easily cooked; but the flavor is more peculiar and pronounced, and to most people not so agreeable. On many tables they never make their appearance, excepting in soup, for which they are much used. Some new and more delicate kinds have lately been introduced, such as the Early Frame and Early Horn. These can be used as salads, either cut up with other ingredients or by themselves, like radishes, to which they are far preferable. The largest use for the root, however, is for stock, giving sleekness to horses, and richness and color to milk. The leaves are coming into use in trimming and making bouquets, for which they are well adapted, especially late in the season, when other leaves fail.

RADISHES.

We mention these simply to put in our protest against them as food; and if we could have our way, to turn them out of the dining-room, and the garden as well. We really do not know a thing they are good for, only to look bright and fresh on the stand of the huckster, when there is very little else that looks bright. As for looking pretty on the table, flowers far surpass them. They are crude, hard, difficult of digestion, innutritious, acrid, and, to a delicate, healthy, and rightly cultivated taste, simply abominable. Any one who needs such a relish to make his food go down, would better wait till he can get that finer relish, hunger, and it will do him far more good. We can not even say in this case, leave them to the lower animals, for we know of no animals that eat them with apparent relish.

RECIPES.

Boiled Beets. — Use a scrubbing brush to clean them with, and an abundance of water; cleanse them well without removing the short bits of leaf stems and the smaller roots; put them into a large proportion of boiling water and boil one hour for small young roots and three or even more for very large roots; lift with a spoon and press with the fingers to see when they are done, but do not probe them with a fork. A little overdoing will not hurt them, but they must be well done in order to be acceptable in any sense. Put them into cold water, and as soon as they can be handled the skins will slip off readily. Cut into quarters or into slices and serve warm or cold.

Beet Pickles.—Stew rhubarb with much juice and very little sweetening; place it in layers between the sliced beets and let it stand a day or two. If wanted sooner, heat it through and let it cool, or use lemon juice and pulp, mixed with an equal quantity of water, and slightly sweetened. The best pickle is stewed green grapes or verjuice. As a dressing for beets, or to eat with them, use stewed tart apples.

Beet Hash.—Chop cold boiled beets and put them to warm in a frying-pan, with milk enough to cover them. Then chop twice as many potatoes, place them over the beets, cover close, and let them heat through, then mix intimately and serve warm.

Beet Greens.—Pull the young beets as long as the tops are tender, or use only those removed in thinning out. Wash well and pick out all the imperfect leaves; boil in plenty of water, roots and all, for three-quarters of an hour or more; then drain on a colander placed over the pot in order to keep them hot. Serve warm with sweetened rhubarb juice or apple juice, or without dressing.

Baked Beets.—The roots must be clean, large, and very fresh, or unwilted. The oven should be slow. Some place them inside of a jar or a closely-covered tin pan or an old saucepan. Cook from three to five hours. When tender to the fingers, pare, slice, and serve warm or cold.

Boiled Carrots.—Wash, cut in slices across, and peel around; throw into water enough to cover them; cover close and stew fifty or sixty minutes, doing the juice well down; they can be served in this juice, or it may be thickened with oatmeal milk and then poured over them. A squeeze or two of lemon juice improves it for some tastes.

Carrot Stew.—Dress as above; and when half done, add twice or three times the quantity of pared potatoes; boil till the latter are done, having them half full or more of water, which thicken with Graham flour to the taste. Some would consider it an improvement to have a few rings of onion thrown in with the potatoes.

Apple Breakfast-cake.—Prepare and stew fresh apples precisely as for the table, and then pass through a colander. Add to this about two parts "A" oatmeal, making it so thick that it will retain the shape given it by the spoon. Spread out half an inch thick, or less, on a baking-tin, and bake twenty or thirty minutes in a good oven. Serve warm.

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RECORD OF SCIENTIFIC DISCOVERY.

Another Great Canal.—The reader has probably heard of the great engineering enterprise now in progress in Holland, the construction of a canal for the direct communication of Amsterdam with the North Sea. The idea of joining Amsterdam with the sea by a direct communication had long been entertained and investigated by various committees, and though many were incredulous of its ever being possible to carry out such a work, a concession was given in 1861. In 1863 a company was formed, and in 1865 the well-known firm of contractors, Messrs. Henry Lee & Sons, of Westminster, undertook the execution of the entire work for a sum not far short of $12,500,000 gold.

According to *Iron*, an English trade publication, this great enterprise may be said to consist of three parts: 1. The shutting out of the tidal waters of the Zuyder Zee from the Lake Y (pron. I), situated to the west of Amsterdam. 2. The making of the canal proper. 3. The making of a harbor on the shore of the North Sea at the entrance of the canal. The first part was successfully completed in 1872. It consists of a sea-dyke, cutting off the waters of the Zuyder Zee to the east of Amsterdam, which is intercepted by large locks having three basins, and a pumping station containing three powerful pumps. The sea-dyke is admitted to be the finest of its kind in the kingdom.

The second part consists of cutting the canal through the sand-hills or duñes near the North Sea, and of the construction there of large locks with two basins, the bigger one being able to accommodate vessels 390 feet long, 59 feet wide, and drawing 27 feet of water. Nearly 8,000,000 cubic yards of sand have been removed from this part of the canal alone. It then passes through the Lake Y, where banks had to be made on each side, and the channel dredged to its proper depth. This was done in a very ingenious way, by attaching centrifugal pumps to bucket dredgers, and by their means passing the sand through pipes to a distance sometimes of 400 yards. Five million cubic yards of dredging had to be done in this part originally, but on account of the company being continually called upon to sluice off the water by the North Sea locks to prevent the flooding of Amsterdam, siltage was brought into the canal to the extent of nearly 3,000,000 cubic yards. The land on each side of the canal has been reclaimed and has sold for enormously high prices, amounting in some cases to $600 an acre. There are nearly 12,500 acres of reclaimed land, and by the concession they become the property of the company. The canal will, when fully completed, be 23 feet deep, 20 yards wide at bottom, and have a varying width of from 70 to 130 yards. Its length is 16 miles.

The third portion consists of making a harbor on the coast at the entrance of the canal. This harbor is situated just half-way between the Hock van Holland (entrance into Rotterdam) and the Helder, or Nieuwe Diep, which are nearly 100 miles apart, and will form the only refuge for vessels between these two places along this barren and sandy coast. The canal and harbor were already so far advanced in September last as to allow of the passage of the iron-clad turret ship *Koning der Niederlanden*, the largest and most recent addition to the Dutch navy. Since then many other steamers and yachts have passed out of Amsterdam this way

Eocene Horses.—Two specimens of equine animals, of an earlier form than any that have been previously described, are noticed by Professor Marsh in a recent number of the *American Journal of Science and the Arts*, published in New Haven, Conn. The fossil bones of these extinct horses are now in the museum at Yale College, and were examined by Professor Huxley during his recent visit to this country. They were found by the Yale professor in the lowest eocene strata of New Mexico and Wyoming. They were rather horse-like creatures than horses, in the modern acceptation of the term, being smaller in skeleton than an ordinary fox, although, geologically speaking, they must be regarded as the progenitors of the modern horse. This discovery and the conclusions drawn from it are in curious disaccord with the oft-repeated statement that horses were introduced into this country by early European adventurers, and that the herds of wild horses familiar to pioneers in the territories are not native to the soil; for if the statement is true, as a point of fact, this newly-discovered fossil can not be regarded as the ancestor of any horse now in existence, although it is admittedly of the equine type, and contributes nothing to the establishment of the theory of evolution—an aspect of the discovery upon which Huxley has dwelt at length in his recent lectures. Had it been discovered in Europe, the case would have been a very different one; and the curious mistake of the eminent naturalist seems to show that scientific men can not be too cautious in accepting mere generalities as demonstrated doctrines of science. In Darwinism one important link of the evidence appears to be pretty uniformly, or at least very frequently, lacking. It is this, namely, that species anatomically related must be proved to have some historical or ancestral relation to each other, before the derivation of one from the other can be presumed. In this case, to urge the objection specifically, the testimony is in favor of the view that our modern horses are not in any manner derivative from Marsh's eocene horses; while, on the other hand, these specimens appear, at first glance, to supply a missing link in the necessary proof of the theory, and the appearance is only shown to be delusive when

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brought into juxtaposition with the lack of true historical sequence.

Late Theories of the Earth's State.—In a recent address by the celebrated English chemist, Prof. Roscoe, he suggests a doubt with regard to the common view of the molten state of the earth's center, as follows: "Is the inside of the earth fluid or solid? Even in such an apparently simple question as this we are still in some degree of doubt. You may think this is strange, because we find volcanoes throwing out lava, which is liquid rock, and because we find much other geological evidence to show that solid rocks, such as basalt and trap, have been protruded as molten masses within recent geological epochs; but it has recently been shown by Mr. Mallet that the fact of volcanoes throwing out liquid rock may not be inconsistent with the view that the earth, as a whole, is solid. Mr. Mallet's investigations go to prove that this liquefaction of the rocks which we observed may be produced at no very great depth from the earth's surface by the shifting and rubbing together of the rocks, owing to cracking due to the alteration of temperature, just as boys at school rub a button on the bench until it is hot, and then often place it on their neighbor's cheek. Applying the laws of the mechanical theory of heat to this problem, Mr. Mallet believes that the friction of the rocks caused by the secular cooling of the earth and the consequent shrinkage is a sufficient and a satisfactory explanation of the occurrence of the high temperature of volcanic action.

"Sir William Thompson, also, than whom no one is more capable of expressing an opinion, decides in favor of the earth's solidity. He tells us, in his address to the Physical Section at Glasgow, that the conclusion concerning the solidity of the earth originally arrived at by Hopkins is borne out by a more rigorous mathematical treatment than this physicist was able to apply; so that the idea of geologists, who were in the habit of explaining underground heat, ancient up-heavals, or modern volcanoes by the existence of a comparatively thin, solid shell, resting on an interior liquid mass, must now be given up as untenable."

Wholesale Heating and Machine Power.—The time may come when our cities shall be heated from some central source just as gas and water are supplied. This idea may appear absurd at first sight, but there are not wanting persons who are experimenting with this view. For instance, Mr. B. Holly, of Lockport, N. Y., has written a book describing a plan for supplying steam for heating and machine work. He says: "In cities or towns of from 3,000 to 8,000 inhabitants, where the main business portion does not exceed one-half mile square, one set of boilers, located near the center of the place, with pipes leading out in four directions, will do all the work. If the city is one mile square, four sets of boilers will be necessary. The main pipes that leave the boilers will be 4 inch, and diminish to 3, 2½, 2, 1½, and 1 inch at the extreme end away from the boilers; the mains of 4 inches continuing as the use along the lines may demand. The main pipes are placed about four feet below the surface of the earth. The iron pipes are first covered with asbestos, and then put in wood pipes, two inches thick, and leaving a space for confined air between the asbestos and wood. This outside pipe keeps all water and moisture from the steam-pipe and prevents condensation. The pipes, both wood and iron, are put down in lengths of two feet, when they terminate in hollow, upright posts firmly secured in the earth. The upper part of this post is arranged so as to receive the ends of the steam-pipes through stuffing-boxes to allow the pipes to expand and contract without moving the post. The posts are also arranged so as to receive the ends of the service pipes either with or without expansion joints. The service pipes are not taken directly from the mains, but from the hollow supports, thus allowing them to be attached or detached from the support instead of passing through the outside wooden pipe to enter the steam-pipe, which could not be done, because the steam pipe expands and contracts, while the wooden pipe does not. This overcomes one of the most important objections to the use of long lines of underground steam-pipes when branch pipes are to be taken off. Another objection has been condensation. This the asbestos reduces about three-fourths, and the air space and wooden pipe will reduce it still further. Tests made during the month of July with very small pipe prove that steam may be carried through well-protected pipes for a mile, and then be more economical than any other system. But it is thought that 1,200 or 1,500 feet each way, making a half-mile square, is about all that need be furnished from one location."

Phenomena of Clot in Human Blood.—From a recent series of observations, says Mr. Fairfield, I have to correct an impression as to the manner of the coherence of the red corpuscles of the blood, that would naturally be gathered from physiological text-books. The view of most microscopists is that the red corpuscles are disks, a little raised at the edge, and that the rouleaux (arrangement into columns like rolls of lozenges) result from approximation of the disks to each other. A very careful series of observations, made by spreading drops of blood on slides with a camel's-hair pencil in such a manner as to leave the films of unequal thickness, has convinced me that these bodies are not disklike, but spherical, and that the appearance of disk is a deceptious one, due to the fact that each body is a nearly spherical lens, that condenses the rays of light passing through it nearly to a focal point, before they come in contact with the glass cover which straightens them again. Hence, under inferior glasses the corpuscles

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may appear to be faintly nucleated bodies, and, under the best glasses, are more luminous in the center than elsewhere. The cause of this central luminosity may be readily developed by viewing them with a light both low and oblique, when the focal concentration of the rays stands fully revealed, and the surface may be examined at leisure, showing that the shape is undoubtedly globular. The formation of the rolls takes place by approximation of these globules. Their coherence is at first very slight, the roll resembling a string of perfectly round beads just fairly in contact with each other. As the process of coagulation continues, some species of attraction appears to press them nearer and nearer together, and their coherence increases, until they resemble microscopic rolls of lozenges. The tendency of the white corpuscles, on the other hand, is to the formation of larger globular masses in which the original boundaries of the individual corpuscles are scarcely distinguishable. A set of Burdon glasses, of the finest defining power, I have seen, presents the red corpuscles at a moderate light, as faintly-tinged globular bodies. The cell membrane appears to be the seat of the color. Under higher lights, the globular appearance is preserved, but the color-seat can not be identified.

AGRICULTURAL HINTS.

[The mind is the man. Farming, in the highest sense, is not simply doing the hard work necessary. This can be done by muscle when directed by brains. The true farmer is he who can plan, direct, and control skillfully.]

As this department is one which should contain the most recent gleanings of wisdom and experience, our readers and friends in the rural districts are invited to send us any items of value to agriculturists in general, and which should have a wide circulation. Due credit will, in every case, be given to the contributor.

The Homestead Law in Brief.—It may furnish some readers with desired information to state that under the Homestead law, any person twenty-one years of age and over, male or female, native or foreign born—married women excepted—may obtain one hundred and sixty acres of Government land on payment of fourteen dollars fees, and after a residence of five years on the land they can have a clear deed of it from the Government. After six months' residence, if it be preferred, they may get a deed on payment of two hundred dollars, and no further residence will be required. Soldiers may deduct time spent in the service of the Union, not to exceed three years from the five years. By the Pre-emption act any person over twenty-one years of age—except a married woman—may take one hundred and sixty acres of Government land on payment of two dollars fees, and after residing on it six months, or for any time not exceeding three years and a half, may get a deed on payment of two hundred dollars and giving evidence of settlement and improvement. The Timber law gives one hundred and sixty acres to any one planting one-fourth of it in trees and cultivating for eight years; forty to eighty acres may be taken on like conditions. The fees are the same as for homesteading.

Tar on Apple Trees.—According to the experience of Mr. Henry Reynolds, of Montgomery county, N. C., tar is a perfect remedy for scarred and sun-cracked apple trees. He says that by coating with new tar the trunk of a favorite fruit-bearer that was cracked and so decayed that the bark was dead and would peel off, he has restored it fully. He applies it to all the branches that show signs of decay. Since practicing this cheap remedy he has not been troubled with insects. "By applying tar to the trunk," he says, "and clearing away the surface at the roots so as to let it run down on them, peach trees badly damaged by borers are fully restored. Replace the dirt, and you will have no more trouble with the tree for two years or more. If the tar is applied to young trees, the borers will not trouble them at all. The coating should be applied in the winter, or early in the spring, with new tar.

New Remedy for the Potato-Beetle.—A Connecticut agriculturist writes: "It is believed that the best thing to repel this pest has finally been discovered. Having given the several reputed sure remedies a test, including Paris green, without finding any of them perfectly satisfactory, the idea suggested itself that the whole secret of success in getting rid of them lay in coating the potato plant with some substance which is offensive to the vermin. Having nearly half a barrel of air-slacked lime on hand, a trial of that was made by dusting over the whole plant just at sundown; several thickly-infested plants being selected for trial. Upon the following morning those plants which were the subject of experiment had been wholly deserted, and the bugs could be seen sitting dejectedly on the neighboring weeds and fence. Since, the same application has been made to several acres of potatoes, which were badly infested, with equally satisfactory results, the bugs generally leaving the plants in a few hours, and many of them rolling off immediately they were touched by the lime. It has the advantage of being perfectly harmless to use, and is cheap and easily applied, while its pungency can not be endured by even a rascally potato grub."

Planting.—Mr. D. H. Jacques, of Fernandina, Fla., is writing a series of articles on "Gardening all the Year Round," for the

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Semi-tropical. His discussions and directions have a more particular application to the climate and soil of the Southern States than to ours, but he now and then drops a word of counsel which may be profitably followed by agriculturists generally. Such, for instance, is the following:

"Never prune, either in summer or winter, without a definite object in view—to regulate the flow of sap, to promote growth or fruitfulness, to improve the form of the tree, to keep all the parts open to the sun, so that the fruit may ripen evenly and so on. Do not cut and slash at random, or without some good reason.

"Pruning to promote wood growth should be done in winter. This proceeds upon the principle that the sap which would have been appropriated to the support of the branches, or parts of the top, taken off, will go to increase the vigor of the parts which remain. This is true within certain limits, but the process must not be carried too far. *Sufficient top must be left to supply leaves for the elaboration of the sap.*

"Wounds made in summer heal more readily than those made in winter, and if we have any branches of considerable size to take off we prefer to do it in June or July. To promote fruitfulness in young trees of rapid growth we, at the same time, 'pinch in' or slightly cut back the leading shoots, to check the tendency to the production of wood and encourage the formation of fruit-spurs.

"If one parf of a tree should outgrow another part, the former may be shortened-in in winter, and the shoots pinched off the next summer, till the sap is thrown in the right direction into the weaker branches, and the balance restored. When you desire the new shoots of a branch to take an upright direction, prune to an inside bud; while, if you wish an open, spreading top, prune to an outside bud, etc. Do not trim the stems or trunks of your trees (whether ornamental or fruit trees) to bare poles, but allow the branches to form near the ground, as they naturally will in open ground. Your ornamental trees will thus be more beautiful, and your fruit-trees more likely to be healthy and bear well.

"Get good, healthy, shapely trees and begin aright with them, and very little pruning will be required at any season of the year. Where trees get diseased or branches broken, as they will sometimes, with the best of care, the saw must be brought into requisition, but in general the thumb and fingers and the pruning-knife are the only instruments required, and these may be judiciously used any and every month in the year.

"Pruning, however, it must be remembered, is, at best, a choice of evils, and the aim should always be to avoid the necessity for making any such choice."

Cow Physiognomy and Character.—A writer in the *Galaxy* has been studying the friend of man which gives him milk, and thus discourses: "What a variety of individualities a herd of cows presents when you have come to know them all, not only in form and color, but in manners and disposition. Some are timid and awkward and the butt of the whole herd. Some remind you of deer. Some have an expression in the face like certain persons you have known. A petted and well-fed cow has a benevolent and gracious look; an ill-used and poorly-fed one a pitiful and forlorn look. Some cows have a masculine or ox expression; others are extremely feminine. The latter are the ones for milk. Some cows will kick like a horse; some jump fences like deer. Every herd has its ringleader, its unruly spirit—one that plans all the mischief and leads the rest through the fences into the grain or into the orchard. This one is usually quite different from the 'boss of the yard.' The latter is generally the most peaceful and law-abiding cow in the lot, and the least bullying and quarrelsome. But she is not to be trifled with; her will is law; the whole herd give way before her, those that have crossed horns with her, and those that have yielded their allegiance without crossing. I remember such a one among my father's milkers when I was a boy—a slender-horned, deep shouldered, large-uddered, dew-lapped old cow that we always put first in the long stable so that she could not have a cow on each side of her to forage upon; for the mistress is yielded to no less in the stanchions than in the yard. She always had the first place anywhere. She had her choice of standing room in the milking yard, and when she wanted to lie down there, or in the fields, the best and softest spot was hers. When the herd were foddered from the stack or barn, or fed with pumpkins in the fall, she was always first served. Her demeanor was quiet, but impressive. She never bullied or gored her mates, but literally ruled them with the breath of her nostrils. If any new comer, or ambitious younger cow, however, chafed under her supremacy, she was ever ready to make good her claims. And with what spirit she would fight when openly challenged! She was a whirlwind of pluck and valor; and not after one defeat or two defeats would she yield the championship. The boss cow, when overcome, seems to brood over her disgrace, and day after day will meet her rival in fierce combat."

Agriculture as a Safe Business.—We have the word of a New England exchange to the effect that the farmer is the safest man, financially, in the country. Of 1,112 bankrupts last year in Massachusetts, only fourteen were farmers, yet the farming community numbers full half the population. The people must live, and while the use of luxuries may be diminished by hard times, there will always be a call for the produce of the farm. Farming has of course felt the general depression in business. But we are in a transition state, from inflation and extravagance to a condition of simple living and economical expenditure, and a state of transition is always fluctuating and uncertain.

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MRS. C. FOWLER WELLS, *Proprietor.*
H. S. DRAYTON, A.M., *Editor.* N. SIZER, *Associate.*

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A WORD OR TWO ON EVOLUTION.

LIKE other editors, we have been asked over and over again for our opinion on this great bugbear of the age; and we have hesitated to give expression to our views, partly because they are not entirely satisfactory to ourselves, and chiefly because we were doubtful of our ability to present them so definitely and clearly that we should not be misunderstood.

Evolution in its application to man represents him as the final outcome of a wonderful process of growth. In the course of this growth low forms of organic life became transformed into higher, the highest vegetable passed into the lowest animal, and the lowest animal, by successive accretions of qualities, physical and instinctive or mental, were advanced upward through the different species and orders until man was reached.

Now, while we concede that the disciples of Lamarck, Darwin, and Spencer have prepared a splendid scheme of reasoning, based upon a broad array of data, we do not concede that they have demonstrated their theory. The circumstantial evidence of probability may be very potential, but strict science does not accept probabilities, however potential, as complete evidence. Allowance is given for the framing of hypotheses upon seemings, for hypotheses have been often found of great value in scientific research, but their application as positive conclusions is inadmissible until accumulated facts provide the necessary warrant.

We find that the data of the development theory are incomplete in testimony most essential to its establishment, viz., in organisms showing the transitional forms or links between different species and orders. While an ascending series of animal life is clearly enough indicated, cross divisions, or varieties combining the physical properties of adjacent species, are wanting in higher forms, where most of all evolution needs evidence. The difficulty in determining the place of some low forms, whether they should be assigned to the vegetable or to the animal kingdom, is not only made a basis for reasoning with reference to the kinship and derivation of those low animal forms, but is wrought into an argument for the assumption that there is a derivative relationship between the ape and man. Analogy, to our mind, is here carried beyond the bounds of logical propriety.

Grant this theory of evolution, and we are forced to grant the development of the intellectual qualities of man from mere instincts—personal cognition and the capability of complex perception and discrimination in matters physical, moral, and esthetic from a nervous state in the animal capable only of recognizing the need of food for subsistence. In other words, from physical impulse moral discrimination may proceed; therefore, the less can include the greater—the less can generate the greater.

Out of the intellectual properties of man have grown the moral, the evolutionist tells us. And although sundry metaphysical

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thinkers of the past, like Locke, Hume, Berkeley, Brown, and Stewart, have labored to supply an intellectual definition of the moral powers, they have not satisfied themselves or us; there is a margin of difference between the moral apprehensions and the intellectual perceptions which we recognize, and may, to a considerable degree, understand, but can not compass by mere reasoning.

Mr. Darwin himself gives an excellent specimen of the inadequacy of science to resolve the nature of morality. He characterizes it as "tribal self-preservation subtilized into etiquette," according to a late reviewer. Can it be possible to bring within the scope of so narrow a view the qualities of heroism, self-sacrifice, ingenuous amiability, the refined affections, patriotism, brotherhood, philanthropy, spirituality? The attempt to relegate these to "tribal self-preservation subtilized into etiquette" appears scarcely short of ludicrous.

One may affect to see how natural selection, if admitted, has tended to the differentiation of physical characteristics and of mental habits, types of which already exist, but we can not hold in other light but that of speculation the reasoning which claims that types of high intelligence and morality were generated by or through low forms. Such reasoning ignores the natural law that like produces like.

Professor Owen says that the remains of extinct animals show a more generalized structure than recent and living animals. Man belongs to a comparatively recent period, and to the "specialized" structures, and notwithstanding his anatomical similarities to the simian, and to the horse and dog also, his mental organism is infinitely superior, and proclaims him of a different order of life. While the Hottentot is amenable to intellectual and moral culture, often under missionary auspices exchanging his barbarism for a character of intelligent industry and philanthropy, the ape, excepting his capability of acquiring a few amusing tricks, which he will perform under the eye of his master, shows no qualities which imply mental expansion, to say nothing of moral apprehension.

Some of the great teachers on this subject consider the lower animals as mere vital automata, and even go so far as to question whether man is more than a conscious automaton, little thinking of the logical tendency of such reasoning. In reference to this side of the doctrine of evolution, Goldwin Smith asks: "What can be imagined more strange than an automaton suddenly becoming conscious of its own automatic character, reasoning and debating about it automatically, and coming automatically to the conclusion that the automatic theory of itself is true?"

One other point must close our brief reflections. We find ourselves totally unable to reconcile the universal belief in the immortality of the soul with the evolution hypothesis. This belief, too, is gradually extricating itself from the relics of old superstitions and coming into a clearer, purer conception of the nature of future existence. Associated with this belief, or constituting a part of it, is the conviction that moral responsibility extends beyond the present life; and in those classes which possess the highest general culture, we find this conviction to be most strongly entertained.

THE POLITICAL SITUATION.

THE long agony of counting the electoral vote found an end, after a protracted session of Congress, in the announcement of Rutherford B. Hayes as President of the United States for the next four years. Whether or not President *de jure*, he is

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President *de facto*, and the country at large breathes more freely than it has at any time since the result of the November election was found to be involved in uncertainty, and the two great parties stood up in fierce opposition, each imputing to the other a want of honesty in dealing with the returns. In the last days of February there were scenes in the great assembly of the nation which caused thrills of apprehension to many a patriot heart, lest the taunt and challenge of acrimonious debate, and the occasional tendency to uproar and confusion should take a more serious turn, and the torch of civil war be kindled anew. But those who were apparently irreconcilable became conciliating; the fierce strife of tongues settled down into mild protest, or courteous agreement, and the ship of State once more sails upon a placid sea.

Our new President has grave responsibilities to meet; and it is the duty of every citizen to encourage and strengthen him by giving moral support and sympathy. The uncertainty of the past three months has cost the producing interests of the country millions of dollars; let us all now join heart and hand in the endeavor to redeem what has been lost. Away with the shameful, pernicious machinations of partisanship which have brought upon us so much public and private injury. Let us be instructed by the sharp experiences of the past fifteen or sixteen years, and co-operate earnestly for the establishment of a true and lasting peace within our borders, and for the promotion of the welfare of the citizens of every State. The prosperity of the Republic means the prosperity of every citizen. And we believe that Mr. Hayes earnestly desires it, but unless he be aided by public sentiment at large, his plans, however well laid, will be likely to fail of the desired result.

A SCHOOL-TEACHER'S DIAMONDS.

A FEW months ago the young ladies of an aristocratic, gilt-edged boarding-school were thrown into a state of grievous perplexity and fear by the unceremonious visit of two or three professional detectives, who ransacked their rooms promiscuously, opening trunks, closets, and band-boxes, impertinently peering into bureaus and recesses, and even, in their "horrid" audacity, daring to invade the sacred interior of their escritoires and jewel cases. The reason for this raid of the minions of the law was the information which had been communicated that the mistress of the school had lost her diamond jewelry, value two thousand dollars, very mysteriously. In fact, they *must* have been taken by one of the lady pupils, but how or why, as they were all of wealthy families, it was impossible to conceive.

The detectives who had been authorized to "work up" the case went at it with their customary energy, giving little heed to maiden protests, blushes, and indignation; and after exploring the upper floors of the building, went to the basement and thence into the cellar. Some boxes of coal ashes lying there unsifted, they set to work to scrutinize their dusty mazes, and were rewarded by finding the precious gems, minus the gold setting, which had been melted off. Immense relief on the side of teacher and pupils, and a hundred or so for the morning's successful work of the officers!

"But how could they have got into the ashes?" asked the grateful teacher. "I had them last in my pocket, wrapped up in a handkerchief."

"Why, it is probable that an end of your handkerchief was hanging out of your pocket, and while passing the stove in your dining-room, where these ashes came from, the loose end caught in the open door, and the

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handkerchief and jewelry were jerked into the fire without your notice."

Moral: (1.) Teachers of young ladies' boarding-schools should be careful how they carry rich jewelry about them.

(2). Should school-teachers wear $2,000 diamonds?

WHISKY vs. LAW AND HUMANITY.

IN one of the newspapers of Western New York we read an account of certain outrageous actions visited upon the Rev. W. Ball and family, of St. Lawrence Co., because of his energetic advocacy of temperance reform. Mr. Ball had performed his duty as a pastor so well, that the liquor-venders of his town all at once found themselves "in a fix"—not able to procure a license for the sale of their liquid poison. But whoever knew of whisky-sellers and whisky-guzzlers who were nice in their observance of laws which restricted their alcoholic relations? License or no license, whisky they would sell and whisky they would drink, and when the officers of justice called them to answer for their disregard of the duties of citizenship, they proceeded to a more overt demonstration of brutish lawlessness, by hanging Mr. Ball in effigy, and subsequently attacking his house in a savage manner, while he was absent, and only women were at home.

But this is only another proof of the inhumanity of the liquor traffic. Every day the dweller in town or city witnesses some evidences of the cruelty and impurity of alcoholism; and every day the lover of decency and justice asks, "Why must this be?" Oh, mockery of our boasted civilization! Every man worthy the name of intelligent knows the influence of alcohol on man, reducing him in besotment to a condition even lower than the brute; and knows how great is its pecuniary cost to the community, the State, and the nation; and yet its hydra corruption is permitted to pollute the stream of life, and dwarf and pervert much of the best growth in human society.

Rum-shops banished, every man made, "will he, nil he," a votary of sobriety, and we would guarantee the nation against financial panics, ring-frauds, and political convulsions. Indeed, who would not?

ERRATA. — In the April number the types make the Christian name of one of the "rival governors" of South Carolina to read "David H.," whereas it should read "Daniel H." Also in the article entitled "Symbolism of the Features," fig. 5 is described as "Kosciusko," when it should be "Kossuth."

A GOOD SIGN.—In Austria inter-class prejudices and jealousies of medicists do not have the prominence which is exhibited in America. A correspondent of the New York *Medical Journal*, Dr. Howard, writes:

"The hydropathic or 'Wassercur' establishments, at least as far as I have seen, appear to occupy a closer relationship to the general profession here than with us. At the large establishment, under Dr. Friedmann, at Vöslan, about an hour from Vienna, one meets not only the physicians resident in that immediate locality, but also some of the principal professors of the Vienna University, who consult freely with the resident physicians, or with each other only, respecting the hydropathic or other medical treatment, according to the nature of the case."

The attitude of the *Medical Journal* toward hydropathy has altered not a little within the past year, its editors having admitted a good deal of testimony in favor of water treatment, both from foreign and

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home practice. We regard this exhibition on the part of the leading organ of the "regulars" as an evidence of the development of a liberal sentiment, which will be conducive to medical progress and popular sanation.

Our Mentorial Bureau.

[In this Department will be noticed such matters as are of interest to correspondents and to the general reader. Contributions for "What They Say" should be brief, pointed, and creamy, to secure publication.]

To Our Correspondents.

THE PRESSURE OF OUR BUSINESS IS SUCH *that we cannot undertake to return unavailable contributions unless the necessary postage is provided by the writers. In all cases, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage—stamps being preferred. Anonymous letters will not be considered.*

QUESTIONS OF "GENERAL INTEREST" ONLY *will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.*

IF AN INQUIRY FAIL TO RECEIVE ATTENTION *within two months, the correspondent should repeat it: if not then published, the inquirer may conclude that an answer is withheld, for good reasons, by the editor.*

LEARNING PHRENOLOGY.—If you will read in the February number of the JOURNAL in the Supplement, p. 11, you will find a list of the books we recommend to students to read with a view to becoming members of a class in the Institute. A fair English education is sufficient to become a phrenological student. Of course, a thorough, classical education would add to a man's power as a lecturer. John B. Gough and many others lecture well without having received a college education.

FILTER FOR WATER.—Will you give me a simple recipe for making a filter cheaply, one which will serve for a moderate family?

Answer: We have occasionally considered this subject and given directions for the making of filters. Our *Health Almanac* for 1876, contains a carefully prepared article, with illustrations. A simple filter may be prepared thus: Take an ordinary water-pail or tight keg, and bore several small holes through the bottom, within a circle, say five inches in diameter; over the holes spread a piece of thin woolen cloth; then spread a layer of clean gravel, say pea-size, an inch thick; then an inch of sand, coarse below, growing finer above; then fill in six inches deep with charcoal, pulverized to the size of blasting powder, but sift out the dust. Such a filter will effectually purify all the drinking water of a family for a week or two.

Of course, it is better to have a larger and more permanent arrangement, in the shape of a tall barrel or tank fitted with a double bottom, on top of which the gravel, sand, and charcoal are successively placed. It is conveniently covered with a tin-pan fitting the top, into which the water may be poured, and from which it seeps slowly through a sponge over a strainer in the middle of the pan, into the charcoal below. A filter of this kind is very generally used in hygienic families, and a five-gallon one will serve for six months or more before it needs replenishing, unless, indeed, the water put in the top be too foul to be fit for use in any case.

ROMANCE.—W. A. S.—The faculties of Ideality, Spirituality, Constructiveness, and the perceptive organs of the intellect, have chiefly to do with the writing of romances, especially those of a vivid, original, coherent sort. Writers whose reflective organs are somewhat in the ascendancy, are given to weaving in a good deal of philosophy and discussion, making their characters argue points of interest to the writer. Writers whose Benevolence is strongly marked, are given to introducing thoughts and personations of a gentle, sympathetic, benevolent cast.

GROWTH OF BEARD.—R. W.—We know of nothing which will positively induce a rapid and profuse growth of the beard on the face of persons whose temperament and constitution are adverse to hirsute conditions.

Our charge for characters from photographs is $5. The circular entitled the "Mirror of the Mind" explains fully how likenesses should be taken for the use of the phrenologist. A green stamp will secure it.

ONIONS.—E. C. H.—These roots can not be said to be unhealthful if eaten after due preparation for the table. The fact of their affect

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ing the breath unfavorably is the chief objection. Cooking them in a measure disposes of this, but not altogether. We think that the onion should be boiled or roasted before it is eaten. In diseases of a scorbutic nature the use of the onion as an article of diet has a curative tendency.

"EMPHATIC DIAGLOTT."—M. E. B.—This valuable edition of the New Testament is printed in the old Greek text, but is divided into verses and chapters corresponding with the version in common use. An interlinear word for word translation is a feature.

LAWYER.—One to be a good lawyer should have a well-developed organization. He should have a strong intellect, good Constructiveness, energy, industry, decision, kindness, and geniality. It would be difficult for us to prescribe a course of reading unless you indicated some special department. In general, we will advise you to read in the direction of your inclinations, avoiding, however, the light and meretricious.

POTTERY.—J. C.—The potter manufactures articles of clay and plaster for use and ornament. It is he who turns out the exquisite dishes and cups which the lover of a well-decked dining-table so much likes to see in the service. You reside in a city where large potteries have existed for twenty years. We think they are to be found in the southern section, in the neighborhood of the old Morris Canal. A visit to one of them during working hours would furnish you more information than we could should we occupy pages.

REASON AND MORALITY.—E. A. I.—*Question:* Is it possible for a person entirely void of reason to be a moral and intellectual person?

Answer: We think not.

WEEPING FACULTY.—N. N. A.—*Question:* Has there been any organ discovered the faculty of which, when strongly developed, would make the possessor disposed to cry?

Answer: The disposition to weep is based rather upon temperamental quality than upon organic function. One having large Benevolence, associated with a very excitable, nervous temperament would, especially if the bodily condition be weak, be more inclined to shed tears than one otherwise constituted. Some with large Caution and a weak organization otherwise, may be easily fretted and annoyed, and so made to weep.

STAMMERING.—S. E. S.—We think that honest endeavor in the line advised by the article published in our "Illustrated Annuals" combined, will ultimately conquer this troublesome habit altogether, or in great part. There are some physicians who make the treatment of stammering a specialty, and with much success. We think that care on the part of the sufferer, self-training in articulation, will prove quite as remedial, though more time may be occupied.

REFLECTION — KNOWLEDGE HEREDITARY.—Student.—Ideas are said to come into the mind occasionally by a sort of spontaneity or instant suggestion. They, however, on analysis, are found to be associative. It is impossible to reflect without knowledge; there must be a subject for consideration; the subject forms a part of our acquired knowledge. Faculties of perception and application are hereditary with reference to their strength and facility of exercise. We see persons around us who indicate original aptitude or tact in certain directions. They can make ready use of the acts or the knowledge which their life experiences contribute.

Several questions await consideration in the next number.

What They Say.

PSYCHOLOGICAL IMPRESSIONS.—A few years ago while at home ill with what my doctor treated as dropsy, twice every day I was attacked by paroxysms of violent coughing, which lasted about two hours. They were so severe as almost to suspend my respiration. One day while suffering from one of them, my mother approached my bedside with a remark that she could ease my suffering. Unthoughtfully she put her hand upon my head, and drew her fingers through my hair. She had scarcely done so four times before I felt some ease, and in a few seconds more the cough almost entirely abated. A minute or two after she had withdrawn her hand the coughing returned, but on resuming her manipulations I was almost instantly relieved. Thereafter she attended me every time the paroxysms came on, and I was invariably relieved. I do not know what eventually cured me; if it was the passes or the medicines which I took, and it remained a great mystery to me for many years. My mother is very credulous; believing that the smallest unexpected favors she receives are special gifts from God, and she always insisted that this occurrence was a God-send. Indeed, I believed so myself till about two years ago, when I became acquainted with your valuable publications. Your "Library of Mesmerism" not only explains what I have said, but many other mysterious subjects with which I have long been familiar, but whose philosophy I could not understand. The following are a few of them:

When sitting near a person (particularly a female) in silence, and meditating upon a subject

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very intensely, I have found that she would be thinking about the same subject as myself, and often give her opinion unasked upon what I was going to say.

Again, while in a prayer-meeting, or some other religious gathering, I would wish for one of my favorite tunes to be sung; and two to one my wish would be gratified, especially if my position was not far from the leader.

Again, the following dream is in singular keeping with the subject: My wife and I while in Liverpool, occasionally visited the house of Mrs. L——, on P—— Street. During an absence of five months from England, Mrs. L—— moved to St. P—— Street, taking a house of peculiar style, and situated close to the railway bridge, and with a church in front. On my return my wife (who resides in Wales) related to me her dream, which was briefly as follows: She thought she was in Liverpool, walking round a strange square, that had a church in the center and a railway bridge at one end; as she neared the latter, suddenly a door was opened, and Mrs. L—— came out, and informed her that they had moved there since the first of August.

The date and the description of the house agreed exactly with what I knew was true. Subsequently I took her unwares through the square, and she instantly recognized the house from the impressions of her dream.

PARVUS NAUTES.

THE FATHER'S RETURN.—A bright fire was blazing cheerily on the hearth on a cool autumnal afternoon, casting a glow of comfort around the tidy sitting-room. There a mother, surrounded by her "jewels," was anticipating the joy of a reunion with her husband. "There, how much your father will enjoy resting after his long ride," she said, while drawing up an easy chair. Little two-year-old Willie, although deeply interested in "making funny men," left his toys, and with a self-satisfied air, placed a pair of slippers by the large chair, saying: "I will have papa's slippers ready." Another little voice responds: "I will hang up his hat;" and still another, wishing to participate in adding to his comfort, says: "And I will hand him a glass of water." With hearts overflowing with love and gratitude for the dear one who has surrounded them with so many comforts, each has a desire to return his kindness, if only in a feeble way.

What a yearning desire the wife has to deserve the name of "helpmeet;" to feel that her education and talents are directed for the good of her household, and that her efforts—although they may seem insignificant when compared with his business cares—are not ineffectual. Circumstances and custom forbidding her assisting him pecuniarily, a spirit of independence and self-abnegation prompts her to compensate him for his labor of love, not with dollars and cents, but by diligently discharging the duties imposed upon a wife and mother, by good management and economy in the household. Occasionally a feeling of dissatisfaction flits across her when reviewing a day's work, but after considering the time expended on one of the dearest duties of a mother, attending to the wants of the innocent babe, kissing the bumped heads and tying up the cut fingers of the little ones; brushing the hair from the moist brow of her frolicsome boy, after a morning's romp; and superintending the many parts of domestic service, she concludes that her efforts have *not* been wasted.

How pleasant the thought: "The heart of her husband doth safely trust in her," to the true home partner! The most complicated details of business are not considered beyond her comprehension, her opinion and views are not deemed unworthy of consultation, or her judgment disregarded.

Were this always the case, there would be less extravagance and fewer pecuniary failures. Let wives prove themselves worthy of this confidence. A happy, unbroken family! What an inestimable gift!

Let us not live merely for our own happiness and pleasures, taking a contracted view of life, desiring only self-aggrandizement and prosperity, but let us care for the destitute and homeless, sympathize with the bereaved, especially those stricken ones—the widow and fatherless. Whose heart is so selfish and devoid of feeling as not to be moved by the touching thought of a home no more to be made joyous, the light of the household extinguished forever? How often, too, that word widow, one of the saddest in our language, is thoughtlessly and jestingly spoken, sending a thrill of pain and a sigh of loneliness to many a broken heart! Let us commend them to One whose sustaining hand can safely and tenderly guide them.

F. D. M.

AN EARNEST WORD.—*Mr. Editor:*—I have the JOURNAL open before me where it quotes the words of Jean Ingelow, "Love me, and tell me so." Now, I am only an obscure little body, occupying only an obscure little corner of this busy, moving world; but I have been a reader of this JOURNAL for two years, and it is such a source of real, profitable, instructive pleasure, I would not give it up for *any* other journal. It does not seem as though I were *quite* out of the world when, buried deep in the perusal of its pages, I behold, as it were, the works and grand results springing from the minds of such men, who, believing with Horace, that "human life grants nothing to man without great industry," have striven and struggled, perhaps from adverse circumstances, cultivating and perfecting

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those noble principles and qualities of head and heart which proclaim man the noblest work of God, and have gained at length the object for which all their efforts were directed, and then handed to the world the fruit of their labors.

I venture, too, to say that a share of the world's good owes its success to Phrenology, and if I thought that any little word of mine—among the many who will encourage you—would help in any way to stimulate you in your efforts, I should feel as though I had left undone a part of my duty, did I not say to the PHRENOLOGICAL JOURNAL, "I love you." LOUI.

[We are of opinion that to just such "obscure little bodies" the enterprise and activity of most communities are due. And we are quite willing to trust the maintenance and success of the PHRENOLOGICAL to their sympathy and co-operation.—ED.]

WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

THE key to the penitentiary—Whis-key.

THE less we parade our misfortunes, the more sympathy we command.—ORVILLE DEWEY.

HABIT IS A CABLE. We weave a thread of it every day, and at last we can not break it.—HORACE MANN.

WHAT makes the Dead Sea dead? Because it is all the time receiving, never giving out anything. This is the case with too many men.

BUY not, sell not, where self-respect is bartered, for that once lost, the mainspring of honor is rusted and decayed.

THE plaintiff and defendant in an action at law are like two men ducking their heads in a bucket, and daring each other to remain longest under water.—JOHNSON.

LOVE is circumspect, humble, and upright; not yielding to softness or to levity, nor attending to vain things; it is sober, chaste, steady, quiet, and guarded in all the senses.—THOMAS A'KEMPIS.

IT is only by labor that thought can be made healthy, and only by thought that labor can be made happy, and the two can not be separated with impunity.—RUSKIN.

GATHER UP THE FRAGMENTS. In every human life there are sure to be some. Every one of us has a secret chamber somewhere, filled with inhabitants whom none but himself can see. It rests with himself alone whether they shall be decaying corpses or only beautiful ghosts.—MISS MULOCK.

THE man who lives right and is right, has more power in his silence than another has by his words. Character is like bells which ring out sweet music, and which, when touched accidentally even, resound with sweet music.

MIRTH.

"A little nonsense now and then,
Is relished by the wisest men."

"DIDN'T she return your love?" "Yes, she did; she said she didn't want it. That's what's killin' me."

A CORONER'S jury, in the case of a man who was killed by a falling icicle, rendered the verdict that he "died of hard drink."

"I NEVER did like mutton with capers," Brown said, as he brushed his clothes after an attack from a ram.

A DILAPIDATED tramp was heard recently inveighing against people who do not clean off their sidewalks. "I expect every minute," he said, "to fall down and break my watch."

A VISITOR at Philadelphia, being asked whether he preferred pictures to statuary, said he preferred the latter, as "you kin go all round the statoos, but you can't see only one side of the picters."

"WHY in the world don't you go to work?" inquired a citizen of a lazy fellow who was trying to borrow some money of him. "Go to work?" echoed the man, "how can I do anything till I know for certain who is going to be the next President?"

Little Black Monkey sat up in a tree,
Little Black Monkey he grinned at me;
He put out his paw for a cocoanut,
And he dropped it down on my occiput.

The occiput is a part, you know,
Of the head and is sensitive to a blow;
And it's very unpleasant to have it hit,
Especially when there's no hair on it.

"MY business is to talk," said a stump-speaker. "I deal in words and sentences." "Yes," said a voice in the crowd, "and as long as I have known you your place of business has never been closed."
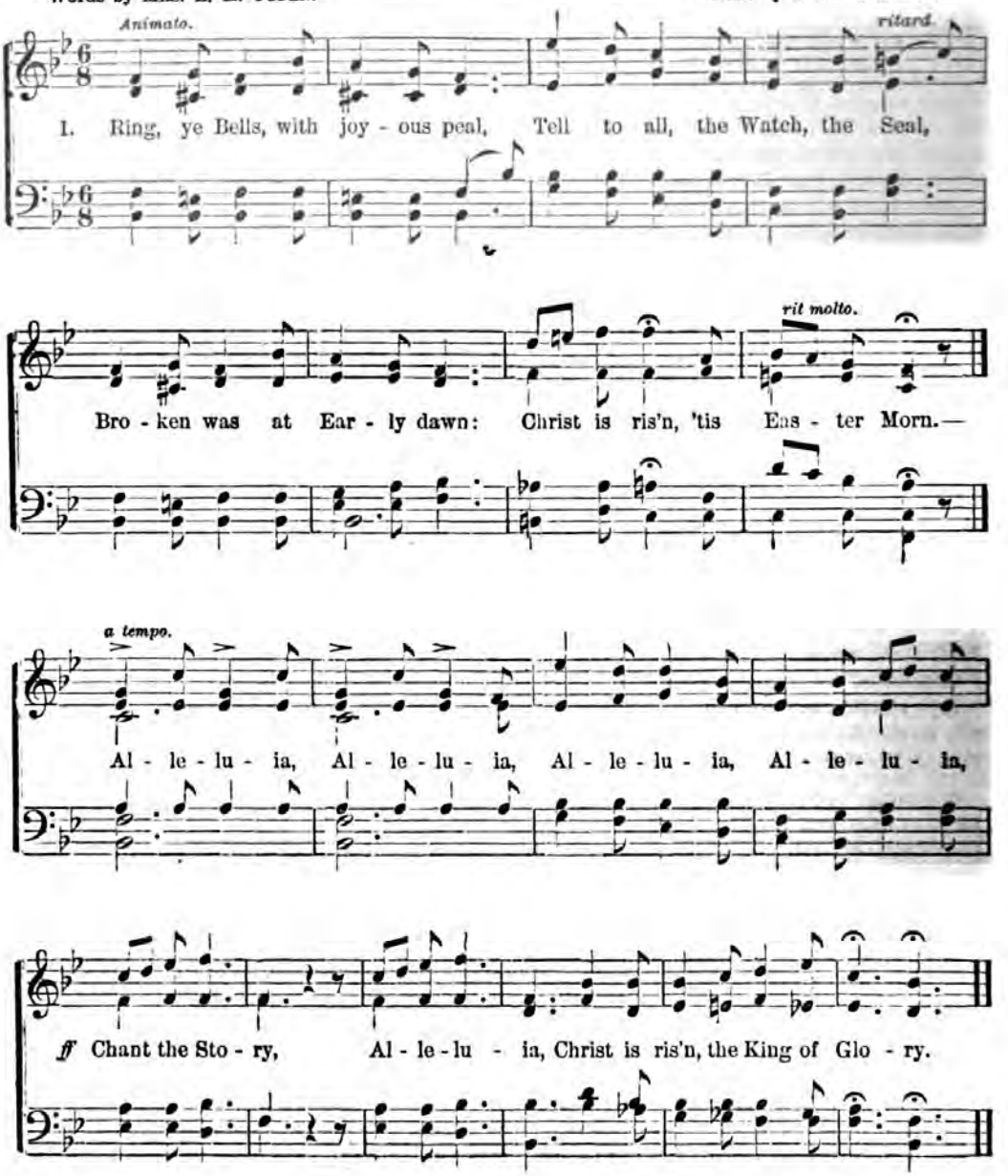
SHE was fond of conundrums, and when she learned that *mulier* was Latin for woman, she thought she had a good one. So she asked her husband what was the difference between herself and a mule. And as he had been married several years he was too thoughtful to trouble her by guessing, but kindly remarked that he had never been able to see any.

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Ring, ye Bells.

(An EASTER CAROL.)

Words by MRS. E. H. OGDEN. Music by S. J. ANDERSON.



II.

Wreathe the Cross with flowers gay,
Freely give your alms to-day,
Crown anew the Sacred Head,
He is living, who was dead:
Alleluia, Chant the Story,
Christ is ris'n, the King of Glory.

III.

Hear the loving Lord's Commands,
Hither come, and from my hands,
Take forgiveness, blessed prize,
Rest and Peace in Paradise.
Alleluia, Chant the Story,
Christ is ris'n, the King of Glory.

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Library.

The Functions of the Brain. By David Ferrier, M.D., F.R.S., Professor of Forensic Medicine in King's College, London. With numerous Illustrations. 8vo, cloth, pp. 323. New York: G. P. Putnam's Sons.

Introducing his subject with the modesty of the true scientist, Prof. Ferrier admits the intricacy and complexity of experimental investigations in nervous function, but finds in applying the new method of electric excitation less difficulty in approximating definite results than was the case by the old processes of vivisection and destruction. "We are still only on the threshold of the inquiry," he says, "yet it is sometimes useful to review and systematize the knowledge we have so far acquired, if for no other reason than to show how much still remains to be conquered."

The opening chapters are occupied with a description of the structure of the brain and spinal cord, and a consideration of the mechanical functions of special parts of the brain in the light of the known views of eminent investigators, Schiff, Ludwig, Woroschilaff, Vulpian, Meynert, Goltz, and others. As the author passes in review the more important experiments of late anatomists, and indicates with much clearness their results, the work is valuable as a compendium aside from the special features of Prof. Ferrier's own researches.

In the chapter devoted to the Functions of the Cerebellum, the author notices the phrenological assignment of the sexual function to it, and expresses the opinion that the phenomena of his experiments, and those of others, do not confirm such assignment; he quotes, however, the work of Serres (Anatomie Comp. du Cerveau), in which the median lobe alone of the Cerebellum is regarded the seat of sexual appetite, after the observation of cases in which disease of the median lobe was "found to co-exist with priapism or excitement of the Generative Organs." The experiments of an American neurologist, very recently made and epitomized in the December number of this magazine, tend to confirm the opinion of Gall and Broussais, as he found that injury to the genito-urinary organs was reflected upon the nervous track directly toward the Cerebellum, and produced tissue changes and degeneration of that ganglion.

Prof. Ferrier's experiments were made upon monkeys, dogs, jackals, rabbits, and other animals. The species of monkey selected was the Macacque, of which the brain is carefully illustrated and described, and the centers of electrical irritation indicated upon diagrams. Repeated application of the electrodes produced fifteen different classes of movements, corresponding with as many different nervous centers. In the brain of the dog, also illustrated, he found fifteen centers also, with definite muscular relations. The results obtained in exploring the unconvoluted brains of small animals like rabbits, guinea-pigs, and rats were essentially similar.

The account of experiments made by the author for the purpose of ascertaining the sensory centers is very interesting, and some of the results appear to have the character of demonstrations—namely, the destruction of the Angular gyrus in one hemisphere destroys the sight of the eye on the opposite side; the Hippocampal region is the center of tactile impression, etc. To the metaphysician the statements with regard to the negative results attending Prof. Ferrier's irritation of the antero-frontal regions, will have a special interest. Quoting from p. 231: "Removal or destruction by the cautery of the antero-frontal lobes, is not followed by any definite physiological results, etc. . . . And yet, notwithstanding this apparent absence of physiological symptoms, I could perceive a very decided alteration in the animal's character and behavior. . . . . Instead of, as before, being actively interested in their surroundings, and curiously prying into all that came within the field of their observation, they remained apathetic or dull, or dozed off to sleep, responding only to the sensations or impressions of the moment." In other words, the animals had evidently lost the quality of intelligence or associative thought, and were little more than automata. Chapter XI., in which the hemispheres are considered psychologically, contains an occasional remark which is encouraging to the phrenologist; for instance: "The development of the frontal lobes is greatest in man with the highest intellectual powers." And: "The phrenologists have, I think, good grounds for localizing the reflective faculties in the frontal regions of the brain, and there is nothing inherently improbable in the view, that frontal development in special regions may be indicative of the power of concentration of thought and intellectual capacity in special directions."

This volume should be attentively read by all who have a professional relation to the subjects of phrenology and physiology.

How to Teach According to Temperament and Mental Development; or, Phrenology in the School-room and the Family. By Nelson Sizer, author of "Choice of Pursuits," etc. 12mo, cloth, pp. 331. Price $1.50. New York: S. R. Wells & Company.

Few attempts have been made by writers to present the important subject of juvenile education in accordance with its scientific aspects, because of the lack of scientific data in the meth-

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ods of training in common use. We have not as yet heard of any well-arranged and efficient plan of child-training which does not take into account the fundamental principles of phrenological science. In fact, as proper classification lies at the basis of true success in teaching, there can not be this classification without a correct analysis of the mental faculties. Outside of Phrenology, or without its aid, an analysis which satisfactorily serves does not exist. Mr. Sizer has entered fully into the consideration of the mental organism of children, and discusses it apart from, and in association with, physical qualities or temperament. He shows how children differ in educational susceptibility, and why, and prescribes methods for the training of different classes of minds. This is, of course, the most valuable feature of the work, and its thoughtful reading by teachers must prove of great advantage to them. The text is illustrated in such a manner as to render the author's points thoroughly intelligible to every class of readers, scientific and unscientific, and assist, because of their fidelity to nature, in enforcing conviction.

We take it that no teacher, who loves his vocation and aims to secure the best results, will neglect an opportunity to read this last well written and printed contribution to the cause of education. And no parent who indulges high expectations for the future of his children, will fail to secure a copy.

PEARL: A CENTENNIAL POEM. By Emma May Buckingham, author of "A Self-made Woman." 16mo, fancy cloth. Price $1.

Encouraged by the success attendant upon the publication of her story of the "Trials and Triumphs of Mary Idyl," Miss Buckingham now invites attention to her recent effort in verse. Pearl Malley is the heorine, Paul Leighton the hero of the lay. Of course, as in all serial poems, the tale is one of love, but there are in "Pearl" so many transitions of sentiment, "from grave to gay, from lively to severe," and all in keeping with the progress of events, that the reader is interested and pleased, in spite of himself. The poem is short—as all poems should be, and as all good poems usually are—its language of the imagination, suggesting to the imagination of the reader many details in its course which, while necessary to a complete understanding of the story, need not to be detailed. For ourselves, we like a poetic style which leaves a great deal unsaid, and is concise in what is actually related.

The poetic spirit gleams in "A Self-made Woman," and we were not surprised when the advance sheets of "Pearl" came to our hands. The new work is better done; the author feels more at home in tracing the measured lines, and they who welcomed the first will be glad to read this second book. There are charms of vivacity and feeling pervading many of the passages which make their reading exceedingly agreeable; in fine, the whole poem contrasts with the majority of the published versifications of the day in its freedom from a trace of the monotonous and doleful. It brightens with its progress, and is happy in its close.

"And while wedding bells are chiming with delight,
Reader, I will cease my rhyming—say 'Good night.'"

PUBLICATIONS RECEIVED.

THE NEW YORK SOCIETY FOR THE PREVENTION OF CRUELTY TO CHILDREN. Second Annual Report, 1877. A review of the work of a most important movement started by the more philanthropic of the citizens of New York. The cases mentioned which have come to the notice, and required the interference of the Society, show how necessary such an organization is to the protection of little waifs, and to the moral improvement of society. Mr. John D. Wright is President; office of the Society, 860 Broadway.

THE NORTH AMERICAN JOURNAL OF HOMŒOPATHY for February contains several well considered articles.

SEVENTY-FIRST ANNIVERSARY CELEBRATION of the New England Society in the city of New York. A neatly prepared report of the exercises of an interesting affair.

MONTHLY WEATHER REVIEW for December, omitted in our last number, describes several interesting occurrences of that month. The most prominent features were: 1. The large number and very rapid movement of the areas of low pressure. 2. The low temperature which has averaged from 2° to 8° below the average for many years throughout the country east of the 100th meridian, as was anticipated in the *Review* for September; on the Pacific slope the month has been warmer than usual. 3. The absence of any area of very high pressure west of the Mississippi. 4. The remarkable meteor of the 21st. 5. The interesting solar halo of December 23d. 6. The absence of rain on the Pacific Coast.

THE PHYSICAL, MORAL, AND SOCIAL EFFECTS OF ALCOHOLIC POISON as a Beverage and as a Medicine. By J. H. Kellogg, M.D. Battle Creek, Mich. A compact little treatise on the most important topic of the time, not even excepting that of the electoral count, and at once clear, cogent, and creditable to its hygienic author. Price, 20 cents.

MUTUAL CRITICISM. Published at the office of the *American Socialist*, Oneida, N.Y. Is a little pamphlet which tells how they treat the cases of members of the Community requiring correction or discipline. It is amusing, yet instructive in many points. The Communists have taken the right direction in mental medicine and hygiene.

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THE
PHRENOLOGICAL JOURNAL
AND
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NUMBER 5.] *May, 1877.* [WHOLE No. 461.



WILLIAM A. WHEELER,

VICE-PRESIDENT OF THE UNITED STATES.

THE indications of the portrait before us are not to be mistaken by the phrenological reader. He at once estimates the character of Vice-President Wheeler at a high degree for sharpness of discernment, energy, and practical ability. The tempera-

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ment is strongly mental, with about an equal proportion of the motive element; so that his conduct exhibits the blending of activity and force. The breadth, upward and backward from the ear, shows large Cautiousness, and gives us warrant for the inference, that however quick may be his impressions, however speedy his decisions mentally, in action he is prudent, moderate, deliberate. The poise of the head and its height at the crown declare the man who holds his convictions closely and earnestly, and who asserts his opinions with clearness and emphasis when it becomes necessary to assert them. He has little of that scheming element which is termed policy; and his organization is lacking in the qualities tending to duplicity. People do not have to think much over his statements of opinion to get at their meaning, and do not have occasion to ask him the same question twice. He is positive enough in expression, and plain even to bluntness. The top head in the portrait shows but a moderate endowment of Imitation, and we infer from that his indisposition to follow customs and fashions which do not commend themselves to his sense of utility. He appreciates duty and responsibility, and has little tolerance for those who shirk what of service and duty belongs to them. But those who seek to fulfill their obligations are warmly esteemed. He has little inclination to be polite and courteous, for the mere sake of showing regard for what society calls etiquette, but is disposed to treat matters squarely, to call white white and black black, to be concise and direct. Yet he appreciates the esthetics of life and character, having, as we infer, a good measure of Ideality; but art and taste he relegates to their proper place, and has in his thinking well-defined lines of distinction between the provinces of the useful and beautiful. In his habits he doubtless shows an appreciation of neatness, order, and even of delicacy, and that refined consideration of others which belongs to the gentleman.

His clear judgment, together with his superior capability in accumulating information, has rendered him of high value to those who are related to practical affairs. And his sound, conscientious regard for truth has won esteem; people who know him know that he gives them the best he has to offer in the way of experience and opinion, when they require his counsel.

We infer from the portrait that he has used his vital energy about as fast as it could be produced in his laboratory of physical nutrition, and there has been little, if any, left to soften the rugged and angular features of his character. A tenacious, enduring constitution has aided him in the furtherance of his aims in professional and public life, but no profusion of bodily vigor, no excess in the product of digestion and assimilation, have contributed their influence to mellow and sweeten in their general expression the activities of his mind. He has been earnest, sincere, truthful, upright, but—as we infer from the portrait—little inclined in later years to show conspicuously light, joyous, sprightly emotions, and so relieve the serious phases of his mental and physical activity.

William A. Wheeler, Vice-President of the United States, was born at Malone, Franklin County, N. Y., on the 30th June, 1819. His education appears to have been far from neglected; it being both academic and collegiate—the latter a two years' training in the University of Vermont. After which he entered upon the study of the law, and commenced its practice immediately upon his admission to the bar of his native county and State. He was a successful advocate almost at the very start, becoming very popular with his clients and neighbors. As an evidence of the esteem which his townsmen exhibited for him, we find him

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nominated, while quite a young man, to be District Attorney of Franklin County, and, being elected, he filled the place for several years.

Next he was made a candidate for the State Assembly by the Whig interest, and was elected by a good majority. A second term followed, and then he retired from the arena of politics and gave himself to the prosecution of his profession and to some general business. He was cashier of a bank for fourteen years; then became President of the Ogdensburg and Rouse's Point Railroad, and continued an active supervisory officer for eleven years. The public affairs of New York had again enlisted his efforts and attention, and giving his hand to the Republican party in its youth, he was made the recipient of what honor it had to offer, being in 1858 elected a member of the State Senate. For two terms he acted as temporary chairman.

Next we find Mr. Wheeler in the Senate of the United States, representing the Congressional district composed by Franklin, Essex, and Clinton Counties, having been elected by a moderate majority. His term covered that turbulent and critical period when the nation was called to meet the opening exigencies of a civil war; and in the measures proposed and passed, Mr. Wheeler acted with the Anti-Slavery side and promoted the war policy. The history of the Thirty-seventh Congress contains that record.

From public to private life Mr. Wheeler now goes, and for four years enjoys a freedom which has been always acceptable to him. Again he appears in the character of a public officer—a member of the State Constitutional Convention, which assembled in June, 1868. He was elected to preside over its deliberations. After the adjournment of this Convention, Mr. Wheeler was nominated by the Republicans of the Seventeenth District for Congress again, and was elected. In this relation he served as Chairman of the Committee on the Pacific Railroad. From that time he was repeatedly returned to the Legislature of the nation. As a member of the Forty-third Congress, to which he was elected by nearly seven thousand majority, he performed eminent service on the Committee on Appropriations; but the part which brought him into most conspicuous notice was that of bringing about what is known as the "Wheeler Compromise." It will be remembered that the majority of a select committee had reported on the State of Louisiana, to the effect that the "Kellogg Government" was largely responsible for the misfortunes of that State, and was merely an usurpation of authority and should not be recognized by the nation. This view was very largely accepted by the Northern people. But the minority, of which Mr. Wheeler was one, reported that affairs in Louisiana owed their condition mainly to the want of education, particularly by the negro. Out of these two reports arose the double-sided complexion of the Louisiana Legislature, in being Republican in the Senate and Democratic in the House, while Mr. Kellogg retained the Governorship. This was the "Wheeler Compromise."

His views with regard to State and national policy are further indicated by his votes in connection with other important Congressional measures; viz., in favor of the land grant to the Texas Pacific Railroad, March, 1871; against a constitutional amendment providing that the "public lands of the United States, except mineral lands, shall not be disposed of except to actual settlers for homestead purposes only," March, 1872; in favor of a resolution reducing the appropriation for the Civil Service Reform Commission from $50,000 to $10,000, April, 1872; against Mr. Willard's Civil Service Reform bill, forbidding members of Congress to interfere in any way with Government appointments, April, 1872; against putting tea and coffee on the free list, March, 1871; in favor of reducing the tariff on certain articles ten per centum, May 8, 1872; in favor of removing the duty from coal and salt, February, 1872; and against the "Salary Grab" act.

Mr. Wheeler was appointed a member of the Board of Commissioners of the State Survey which was authorized by the New York Legislature in the spring of 1876.

What may be expected from his influence

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in the new and responsible position which he now occupies, as the second officer of the nation, is very clearly expressed in his letter accepting the nomination of the Cincinnati Convention, the paragraphs of which, relating to those foremost questions of the currency, the ballot, and civil service, are annexed:

"The just obligations to public creditors —created when the Government was in the throes of threatened dissolution, and, as an indispensable condition of its salvation, guaranteed by the lives and blood of thousands of its brave defenders—are to be kept with religious faith, as are all the pledges subsidiary thereto and confirmatory thereof. In my judgment the pledge of Congress, of January 14, 1875, for the redemption of the notes of the United States in coin, is the plighted faith of the nation, and national honor, simple honesty, and justice to the people, whose permanent welfare and prosperity are dependent upon true money as the basis of their pecuniary transactions, all demand the scrupulous observance of this pledge; and it is the duty of Congress to supplement it with such legislation as shall be necessary for its strict fulfillment.

"In our system of government intelligence must give safety and value to the ballot. Hence the common schools of the land should be preserved in all their vigor, while, in accordance with the spirit of the Constitution, they and all their endowments should be secured by every possible and proper guaranty against every form of sectarian influence or control.

"There should be the strictest economy in the expenditures of the Government, consistent with its effective administration, and all unnecessary offices should be abolished.

"Offices should be conferred only upon the basis of high character and particular fitness, and should be administered only as public trusts, and not for private advantage.

"The foregoing are chief among the cardinal principles of the Republican party, and to carry them into full, practical effect is the work it now has in hand. To the completion of its great mission, we address ourselves in hope and confidence, cheered and stimulated by the recollection of its past achievements; remembering that, under God, it is to that party that we are indebted in this Centennial year of our existence for a preserved, unbroken Union; for the fact that there is no master or slave throughout our broad domains, and that emancipated millions look upon the ensign of the Republic as the symbol of the fulfilled declaration that all men are created free and equal, and the guaranty of their own equality, under the law, with the most highly favored citizen of the land. To the intelligence and conscience of all who desire good government, good will, good money, and universal prosperity, the Republican party—not unmindful of the imperfection and shortcomings of human organizations, yet, with the honest purpose of its masses, promptly to retrieve all errors and to summarily punish all offenders against the laws of the country—confidently submits its claims for the continued support of the American people."

Mr. Wheeler is of medium size, with a strong frame, full of nervous energy; his complexion shows a free, well-vitalized circulation, and his manner is spoken of as cordial and hearty in business and social life. We are of opinion that the party which selected him for the second place on their ticket showed a high degree of sagacity, and that he will fully meet expectation as a wise and efficient national officer.

IMPROVEMENT IN THE MORALITY OF OUR PUBLIC MEN.—A few weeks before his death, Vice-President Wilson was dining at the same table with a well-known Bishop of the Protestant Episcopal Church, who raised the question as to the degeneracy of our public men with each generation of the Republic. Mr. Wilson spoke at some length from his own long experience of public life, comparing the many Congresses of which he had been a member, and showing how rapidly and decidedly the moral character of their membership had risen during the recent decades of our history. Especially have drunkenness, profanity, and licentiousness decreased among public men. The heroes of forty and fifty years back, whose lives are the theme even

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of our Sunday-school books, and whose characters are continually held up to the admiration and imitation of our young people, were almost to a man persons whose morals would not now bear inspection. And even the confusions and disturbances which occur in the halls of Congress, though sufficiently numerous and undignified, are as nothing to the disgraceful rows which once took place there.—*Penn Monthly.*

HISTOLOGICAL EVIDENCE OF A SOUL.

IN what follows, while giving the lay reader a general map of the progress of the science of tissues, it is my intention to indicate that histology has now to offer a very conclusive scientific demonstration of the existence of a soul in man—that is to say, of a psychic man, of whom the physically organic man is but a material symbol. The sordid materialism to which the cell-theory in its earlier forms steadily tended, has been so far corrected by later and deeper investigations as to admit of the superimposure of higher and more spiritual views of life upon the solid basis of induction; and it may now be held, not only without contradiction of the received tenets of physiology, but in strict harmony with its data:

1. That life is a *vis essentialis* in the acceptation of the term employed by the older physiologists, and that, in addition to the association of functions (*ensemble des fonctions*) constituting the normal activity of a living organism, there is a higher element to which such functions are subordinated.

2. That the soul is a psychic entity, coextensive with the nervous system, and through it, affecting, coördinating, and expressing its being in the *ensemble des fonctions* of the material body.

As I proceed with a brief *résumé* of the development of histological science it will be seen, I think, that modern investigation furnishes a very full and complete vindication of the view that the evolution of structures is a psychic process, and that a psychic principle enters intimately into the constitution of living bodies, coördinates the formation of tissues, and gives unity and law to all those operations of life that the microscope reveals.

The word tissue, Greek ἱστος, whence histology, the science of tissues, is employed by physiologists to designate any such special structure as bone, nerve, or muscle, and is hence a term of large and varying application. As a science, histology is indebted for its extraordinary development, during the last half a century, to the perfection of the microscope as an instrument of scientific investigation. For about two centuries after Jansen, of Holland, discovered the principle of the compound microscope, the instrument was still regarded by the learned world as a deceptive toy, which, in the hands of a few enthusiasts, such as Wolfe of the seventeenth century, had resulted in certain illusive and sensational doctrines of intimate structure; and although Baron Holler appears to have availed himself of the instrument to some extent in his work on physiology, that classic authority nowhere acknowledges his indebtedness, except in a single contested passage. Wolfe, Holler's contemporary, who laid the foundation of the science by many valuable discoveries, was treated as an impostor in his own day, and his work passed into a proverb for quackery, from the obloquy of which it has but lately been rescued by Prof. Huxley, who shows that he really anticipated many of the important doctrines of modern histology.

The science of tissues may be considered as having passed through three successive stages of development, commencing with the very early investigations of Wolfe, which, considering the then undeveloped capacity of the microscope, were conspicuously exact and comprehensive, and ending with those of Dr. Lionel S. Beale, of London, the author of a series of volumes on the evolution and intimate structure of nervous and other tissues, remarkable alike for extent and accuracy of observation and for striking originality of conclusion. The first stage, which includes the works of Wolfe, Malpighi, Leenwenhoeck, Spallanzani, and other cele-

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brated names of the seventeenth and eighteenth centuries, was remarkable for the extent of its discoveries, but did not arrive at any demonstrable theory of the origin and development of tissues. The second, which must be limited to the thirty years from 1820 to 1850, was opened by Schwann and Schleiden, the propounders of the cell theory, which regards the cell as the first form of all living tissues, whether vegetable or animal, and such miscellular organisms as the monas (an infusorian) as the primordial types of life. During the progress of this theory the definition of the term cell suffered important modifications. With Schleiden and Schwann it was a very complex body, having a transparent spot at or near the center, surrounded by a less transparent matter designated as the cell-contents, and enclosed in a thin membranous sac styled the cell-wall. A nucleated white blood corpuscle presents the older conception of the cell in its most typical form. The nucleated amœba is another illustration. Presently blood corpuscles were observed in which no transparent spot was visible, and by and by it was found that the membranous envelope was by no means an invariable element, and that such organisms as the nucleated amœba must be regarded as very complex products, as compared with the simple and globular, but apparently structureless monas. As the old definition of the cell gave way before investigation, the protoplasmic theory of life obtained greater prominence under Huxley, Dujardin, and Beale, and the cell theory has been less insisted upon than it formerly was, under Ehrenberg, Henlé, Valentine, and others. This reaction against the cell-theory may be regarded as sufficiently distinguishing the existing doctrines of histology from those of the second stage in the development of that science, to justify scientific writers in grouping them together as the protoplasmic period. The term protoplasm was first employed by Remak about the year 1850, but is synonymous with surcode as employed by Dujardin, who must be regarded as the discoverer of this physical basis of life.

The view of the earlier expounders of the cell-theory was, that each cell was an organism leading an independent life as respects its own vital processes. According to this view, an animal body was a vast bee-hive of minute beings, each the seat of a special life, but all more or less subordinated to the purposes of the larger organism. To illustrate the point more clearly, a human brain was to the older microscopists an assemblage of innumerable little cells, each of which had a certain independence as a microscopic brain; and thus, from myriads upon myriads of little brains, some round, some elongated, some bipolar, others tripolar and multipolar, was built up that complex organ comprehensively described as the encephalon. Ehrenberg, of Berlin, was the first to give consistent development to this theory as respects the structure of the nervous system, and to regard it as a complex association of an infinite number of nervous centers, each having its own psychical life, but each subordinated to the associate psychic function of the mass. A muscular fiber, in a similar manner, is in its origin composed of a linear arrangement of these minute globular bodies; while, in connective tissue fibers, the filamentous structure seems to be due to the elongation and matting of the cells into a compact web—a process which may be observed in its various stages in the fœtal development of the abdominal integuments. Cuticle, again, is observed to consist of a tessellated arrangement of flattened cells, resembling minute transparent scales. But it is in the development of epithelial tissue that the comparatively unpracticed microscopist may most readily, with little preparation of his sections, find illustrations of the cell-theory in histology. The value of Ehrenberg's Memoir to the Academy of Sciences of Berlin, 1836, in simplifying the study of the nervous system, and unfolding the psychic processes, was incalculable to physiology. According to that memoir, for example, the fundamental conception of a nervous system may be regarded as a cell, in which psychic energy is generated, and a filamentous process by which its influence is propagated; and the complex nervous organism of a man consists of nothing more

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than a systematic arrangement into larger centers and nerves, of a practically incomputable series of such fundamental types. In a similar way, under the proper treatment, bones, cartilages, mucous membranes, and other complex tissues are observed to consist of cells (the bioplasms of Dr. Beale) under various degrees of transformation.

Beautiful as this theory was, and sustained as it is by innumerable facts, more comprehensive investigations have resulted in raising many doubts as to the universality of the cell as a morphological unit, and its importance in that aspect appears to be waning. M. Robin, one of the most prominent microscopists of France, for example, regards the fiber as being as primary as the cell in the evolution of structures, and thus establishes two classes of morphological elements, the fibrous and the cellular; while, again, the generation of cells and fibers from amorphous protoplasm, is now agreed to be preceded by the phenomenon of granulation. According to these later doctrines, as a first step in the development of tissues, granules of such exceeding minuteness as only to be visible at 800 and 1,000 diameters, present themselves in the hitherto structureless and transparent mass. These granules, as observed in human blood, are of very uniform diameter, about $\frac{1}{800}$ of a millimetre; and, according to the latest observations in this department, it appears that by aggregation they form cells, and by linear approximation primitive fibrils. The preponderance of evidence thus seems to support the view that the monas (a very low type of cell organism) and the vibrio (a mere animated fiber) are equally primitive structures, and that the granule is properly the morphological unit from which all tissues are derived. Of the laws that determine the arrangement of granules into cells, on the one hand, and into fibrils, on the other, nothing whatever is known as yet. Very recent observations have contributed to show that, in the formation of cells, they arrange themselves in threes, fives, sevens, nines, elevens, and so on, in odd numbers rarely exceeding seventeen. In blood plasma, the tendency of such granules to arrange themselves into corpuscles may be very appreciably stimulated by adding a trace of hypophosphite of ammonia to the specimen under inspection; so that, as Dr. Lehmann was the first to remark, it is tolerably certain that the development of structure in amorphous protoplasm, is dependent upon the presence of a phosphorous trace in the compound, generally existing as a phosphate, but in nervous tissues usually taking the hypophosphite form. The evolution of the phosphorous trace and the development of the tendency to cell formation always accompany each other. The most common forms under which the former appears in living tissues are the phosphates of lime and magnesia; phosphite of ammonia, potash, and magnesia; nitrogenous and oleo-nitrogenous hypophosphites of lime, potash, soda, ammonia, and iron; hypophosphite in combination with albumen, and hydrated hypophosphorus acid in combination with oil

The distinction between protagon, the special basis of nervous tissue, and protoplasm, the general basis of all tissues, consists in so simple a process as the disappearance of the sulphurous trace in the latter, and its substitution by hypophosphites; while, in the development of osseous, muscular, and areolar tissues, the phosphates of potash, soda, lime, magnesia, and iron are active agents; so that, under its various forms, this phosphorous trace may be designated as the organizer and tissue-generator of the animal and vegetable kingdoms, and the source of all the varied morphological phenomena illustrated in the growth of living bodies from a simple albuminoid basis. This basis may be studied in one of its simplest forms in fish-spawn and in the ova of higher animals. One noticeable feature in the history of the histological science should not be permitted to escape the attention of the general reader, and that is the constantly increasing simplicity of statement and view that has accompanied its more recent literature under Frey and Stricker in Germany, Robin in France, and Carpenter, Huxley, and Beale in England, as compared with the intricate and detailed theories of Schwann and Schleiden. This simplification of the science has been due mainly to the less stress that mod-

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ern microscopists have been inclined to place upon the cell as a first form of tissue, and to the recognition of protoplasm as (though uniform in its constitution in the germ of the plant and the ovum of the animal) the material basis of life; together with a corresponding recognition of protagon, the special basis of nervous tissue, differing from protoplasm only in the substitution of a phosphorous for the sulphurous trace in the latter, as the material basis of all our psychic activities, and the source of the law of modality, by which like produces like. It is, for instance, the presence of a protagonous element in the wheat grain that determines the production of a wheat plant from the germinal matter contained in it. While, therefore, protoplasm is the vital and growing matter of all living bodies, whether animal or vegetable, its correlative, protagon, is that which coördinates its organization into tissues having special functions, and determines all its various morphological products; and, as protagon is only another name for nervous matter, it seems to be one of the inferences of modern histology, that morphology is a psychic process rather than a strictly vital one. The designing intelligence with which the old metaphysicians invested the processes of organic nature, a dream as it seemed to histologists thirty years since, finds a sufficient material substratum in our later and nicer investigations regarding the origin and development of tissues. To the elder cell-theorists, the larger life of an organism was simply the sum of millions of independent, but associated cell lives. In the light of recent histological doctrines, the larger life of the organism is seen to furnish the laws under which tissues are evolved, and to be the end toward which all morphological changes are directed, from the first organizing movements in the ovum to the adult development of the animal. Wolfe, the father of histological science, held this view, which was subverted during the eighteenth century, but has been substantially reaffirmed by later investigations.

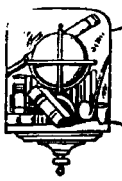
It has been only in studies of very recent date that the universality of protagon—the special substratum of the psychic activities associated with life—has been comparatively demonstrated. Its coëxtent with protoplasm in vegetable as well as animal structures, is now one of the verities of science; but, so far as can yet be traced, it exists in the latter in an amorphous state, scattered and diffused, but extractible in small quantities. By patiently separating the inner cuticle of the wheat grain, and digesting it in alcohol, protagon is precipitated as a fatty substance, in the same manner as by mincing the animal brain and subjecting it to a similar treatment. It exists in the ova and blood of animals in an abundance nearly proportional to the comparative complexity of structure and function that the adult life of the animal illustrates. It is the proper physical basis, in a word, of that principle of order and beauty, of coherence and harmony, that informs all the operations of organic nature with the evidences of design, of adaptation to an end, and renders nature a psychical problem, appealing equally to the artistic, the emotional, and the rational elements of the soul.

At present, I have only set down a brief memorandum of something which may be elaborated hereafter, by way of assisting to resolve a possible doubt in the mind of some bewildered reader, as to there being any inductive evidence that man is a psychic entity. FRANCIS GERRY FAIRFIELD.

CANNIBALS IN POLYNESIA.—Until lately no attempt has been made to Christianize the islands known as New Britain and New Ireland, in Western Polynesia. Two years ago a number of Fijian converts, under the leadership of a noble Wesleyan missionary, and with the sanction of the Board, took their lives in their hands, and carried the Gospel to those benighted regions. They were received very kindly; neat chapels were erected, the natives supplying the labor and materials, and the work has begun with most favorable prospects. Meanwhile most interesting observations have been made of the customs of the natives of those distant islands. In race the people are strictly Papuan. They are nearly all cannibals. In

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one house thirty-five human lower jaw-bones were counted, and a smoke-dried hand was hanging up, while outside the same house seventy-six notches in a cocoanut-tree were counted, each of which represented a human being who had been cooked and eaten there. In another village one of the party, going into a native house to light his pipe, found a woman roasting the thigh and leg of a man killed the day before. Nearly all the men and most of the women are quite naked, and yet seem to be fairly intelligent. In New Britain the natives affirm most positively the existence of a race of men with tails, with whom they are often at war, and when the missionaries expressed their doubts, they volunteered to waylay a specimen, and so compel their belief. They denied most indignantly the supposition that they must be monkeys, asking if monkeys fight with spears, plant yams, or build houses. —*National Repository.*



Physiognomy, or Signs of Character.



Of the soul the body form doth take,
For soul is form, and doth the body make.—*Spenser.*

RHINOLOGY, OR THE SCIENCE OF THE NOSE.

[FROM THE GERMAN.]

"TELL me what induced you to write such a work!" asked the Emperor Joseph, of Austria, of the pious minister and celebrated physiognomist Lavater, about a hundred years ago, when the latter had just published his "Physiognomic Fragments," "for the promotion of the knowledge of human nature and the love of mankind." Lavater answered: "While drawing portraits I observed peculiar similarities between certain features of some of my friends, as, for instance, similar noses. I directed my observations also to other parts, to individual features, outlines of the forehead, of the skull, of the bones, and at the same time to the disposition of the fundamental faculty of man, to the proportion of his activity and passivity; in general, to the susceptibility and power which are expressed in the structure of the face. More difficult to ascertain, but nevertheless more certain, are the demarkations expressive of character and activity in a tranquil face."

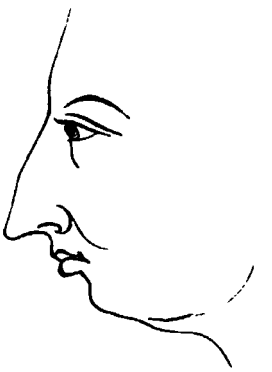


Fig. 1.

Lavater attained in this science a great superiority. "His insight," said Goethe, "into individual man was almost beyond conception; one was amazed in listening to him when conversing familiarly about this or that man; indeed, it was frightful to live near a man who could read every line which nature had imparted to our face. Thus, for instance, he discovered in a stranger, who once visited him, a murderer at first sight, although he was a man of culture and refinement." This knowledge he intended to establish and propagate as a science for the promotion of philanthropy, and already at that time he had indicated the afterward-developed doctrine of Human Nature. Anthropology, which is made use of by well-meaning Socialists, shows in criminals a Government's *own* crime, which is, as Bettina says, "partly a malady, that, instead of being punished, ought to be cured." Indeed, Physiognomy and Cranioscopy, or, more properly, Phrenology, with its correct

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perception and judgment of the peculiar formation of man, will, if combined with real science, contribute greatly to the more humane treatment of delinquents, according to their nature and guilt. But in this study and science the hands, and even the feet, should not be left unnoticed. The so-called Chiromancy, or the art of fortune-telling, still practiced by gypsies, from the lineaments of the palm of the hand, pointed, in ancient times, toward the hand as belonging to Physiognomy.

Carus, of Dresden, wrote a very interesting article about the form of the hand; and an English writer has lately published a book about the thumb, and tried to point out that from the three joints and their proportions to each other, all the characteristics of men may be deduced. Perhaps we must even go down to the feet and the toes. The flat feet of the negroes have by some ethnologists been held out as an argument against their capacity for culture. Burmeister wrote a creditable physiognomical treatise on the foot. If this science, therefore, reaches from the foot to the head, we must not omit noticing whether a man's body is short or long, thick or thin, etc.; in short, we must obtain from all parts of the countenance and body all the wisdom which we believe may be discovered in relation to one's person, and thus secure a true judgment.



Fig. 2.

But it will nevertheless be interesting to inquire what and how much can be perceived in one's nose, for Lavater, in his "Physiognomy," commenced therewith. At first sight we find the most remarkable varieties in noses, as Roman, Greek, Jewish, Negro, frog, ram, eagle or hawk, stump, pug, and flat noses, fearful snuff or ferret, and shapeless bottle noses, which are stuck either dwarf-like above the upper lip, or bulged out like a gigantic cucumber, or like a shovel or the beak of certain marsh birds, etc. Other noses resemble, perhaps, a chisel, and sometimes the noses of drunkards are changed into copper-mines. In the following remarks we will consider some of the most important shapes of noses for the benefit of our readers, but without any malicious purpose of leading them by the nose.

In the first place, we will lay our finger on our nose, in order to try our sagacity in answering the following question: With what



Fig. 3.—Menelaus.

peculiarities of character is the nose in its different forms connected? It is, as known, the real promontory of the facial landscape, and equals the smaller side of a truncated cone, to which the head forms the shaft. Its distinction as an olfactory organ, or as the funnel of the lungs, does not come into consideration hereby. For us it is only the extended organ of expression for manifesting the inner character of men, and the mode and manner of its manifestations are therefore a guide to his conduct and appearance in society. A great deal, but not all, can be read on one's nose. The degree of energy for acting, of irritation, or indulgence, and self-command are frequently expressed in the structure of the nose. Just as the middle part of the head with the cheeks corresponds with our feelings, with our real "*Ego*," with all our inner life, so the nose, according to its form, discloses different inclinations of our *Ego*, or personality, in respect to our surroundings. One may probably hoax a man in different ways, but not through his own nose. Nose wisdom depends first upon the size of this note of exclamation in the face. It may indicate the strength of our natural disposition to muscular and mental activity; also the strength of the voice, and the degree of the inclination of the mind to influence by word



Fig. 4.

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and action the outer world. The voice is stronger for acoustic reasons on account of a larger sound-board, whereby we may mention that speaking through the nose is less a natural defect than a consequence of neglect and of conceit, as we find conceited persons usually have the unpleasant habit of snuffling.

As a rule, the male sex has, together with more energy, a larger nose than the female sex, and woe to the man who can not set against the Amazon nose of his better half a comparatively larger proboscis! Men who take hold of their noses and think them comparatively large, should not triumph too soon, as the large nose will not always save them from petticoat government, much less when the nose is very strong toward the



Fig. 5.

front, while the chin is drawn back, as shown in profile, Fig. 1.

As military men excel through a decisive and independent behavior, so we find among them the largest and perhaps best noses; even a flat or snub-nosed country boy, after having been for some years in military training, assumes a better nose. The Jewish nose compares with the soldier nose only seemingly, as the upper part of their noses, the root, which is indicative of personal courage, is but feebly perfected. A large nose, without this sign of courage, only indicates the babbler, who thrusts his nose into every corner, as shown in profile No. 7, when a real heroic nose of an enterprising and energetic man is marked thereby, the root of the nose in the profile is set off prominently; for instances, compare the noses of Napoleon, Cæsar, Apollo, Hercules, Menelaus in Fig. 3, that of Diomed in Fig. 6, and of Achilles, with a babbling and spiritless nose, like that of Paris, in Fig. 7. In



Fig. 6.—Diomed.

short, large-nosed men will always appear comparatively more energetic, more quiet, and cold-blooded in all their activity and expressions than those with small noses.

Size, however, is only a very general idea in itself, from which but little can be inferred, as much depends upon its form and proportion to other parts of the face. In order to measure the size itself exactly, it is necessary to take into consideration the height, *i.e.*, the perpendicular distance of the line from the beginning to the end of the nose, and the breadth at the bridge, and the depth.

The height of the nose is certainly in



Fig. 7.—Paris.

proportion to the degree of power in the endurance of impressions on the mind and in the patience of submission. The one who submits to everything has a nose like the one in Fig. 8, whereas men of irritable

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and impatient character may have a short, as also concave, nose, as shown in Figs. 9 and 2. Yet the owner of such a nose may evolve a great deal of energy, life, and cheerfulness, especially if, as in Fig. 9, the nose developes itself a little toward flatness.

The continually discontented, especially the professional political reformer, has neither a fine nor a high nose, but always a decidedly low one. At any rate, contentedness is dependent upon the height of the nose, and at the same time upon the lower jaw; therefore a face like that in Fig. 8 is without passion, and without passion there is no great achievement possible.

A broad nose indicates generally considerable bodily strength and want of elegance and fineness in motion, and the possessor of such a one is more suited to struggle and



Fig. 8.

herculean work; whereas the possessor of a fine small nose distinguishes himself in mental achievements in the drawing-room. If the small and fine nose belong to a murderer, he will choose as a weapon the dagger, but the criminal with a broad nose will grip the ax or club. The noses shown on antique works of art are almost always broad, especially the front line, which not seldom forms a flat surface, whereas modern noses of a higher intellect are more or less sharpened.

The depth of the nose—the distance from the tip to the jaw—has some meaning; it denotes energy and muscular activity, and especially voice. The more an animal is developed in intelligence, the more its nose projects from the mass of the upper jaw, or cheek. The upper jaw of animals stretches more or less forward, so that the profile (facial angle), instead of being, as by men, almost perpendicular, is nearly horizontal.



Fig. 9.

Without going into further and uncertain details, we will only remark that the more the nose projects, the more the instincts and passions are developed, and *vice versa*. Thus we may not annoy with impunity the owner of a strongly-projecting and pointed nose and upper jaw, as in Fig. 5. The injudicious and assuming man has always a strong projecting nose and upper lip, and is usually criticising everything without examination, however much knowledge may be necessary to understand it. This is really the man who thrusts his nose in every corner; he who carefully examines and bases his modest opinion on knowledge, and who possesses a thorough education, bears, as a



Fig. 10.

rule, a more perpendicular nose, as in Fig. 4. The strong arch over the upper part of the nose made by the forehead, and seen in some persons, forms a physiognomic peculiarity of importance. This arch is, accord-

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ing to Vogt, the sign of language. Men without this arch are poor speakers, and a serious injury to this part of the head may even destroy the faculty of speech. The particulars relating to this belong chiefly to the sphere of Phrenology. According to the way the nose projects from the base forward by the cheeks, and according to the form of the profile, the different degrees of freedom and energy in the appearance and personal manner may be predicated, and the degree of humane and intelligent culture may be conjectured the more the cheek stands back from the nose and leaves it in independence of the surrounding features.

Much depends upon the sharpness or flatness of the nose; as, for instance, the distinguishing of oneself before the world, and the peculiarities of conduct. The lower animal has, in comparison with men, no nose at all, or only a slight indication of one; and in correspondence it has no precision, no culture in its conduct; it does not care how it satisfies its instinct, its passions —eating and drinking in a promiscuous fashion. So the negroes and other wild nations, having small flat noses, are deficient in esthetic sentiment. Men of some education, living in cities, have always a nose of more definite cut than illiterate country people, and people who, through severe educational or disciplinary training, have gained a true gentility, have obtained with it usually a well-formed and more or less sharply-cut nose.

A nose, as the one in Fig. 11, may become inconvenient to other people, as it indicates too much energy, and demands likewise of others a great deal of obedience and subservience; persons with such a nose are too determined in their conduct in society, and will hardly allow other people to assert their opinion; such men are in place as captains of drilled companies on the battle-field as commanders. The concave feature, grooved in the ridge and sharp-pointed, like Fig. 10, is the nose of a ferreting, snuffling and smelling-about person. Like the beak of certain marsh birds, this seems con-



Fig. 11.

stituted not only for smelling, but also for penetrating and shoveling up of all sorts of refuse in daily life; people so characterized scent and snuffle out a number of mysterious things which would better be left buried and hidden.

"Nose, as usual," is very often the common term in passports and warrants; persons whose noses are thus classified, need not be sorry, as they may possess many qualities and talents too good to be fixed as appendages to their noses.

CHARACTER IN THE VOICE.

A WRITER in the *New England Journal of Education* has been observing and thinking on this subject, and briefly concludes that—

"Deep voices carry convictions of authority. Everything moves before the deep-toned teacher. There is force in his words. They carry power as do the shafts and belts from the engine, till, systematically, slowly, and steadily, the rough material to which the power is applied, is transformed into useful elements of civilization.

"Shrill voices hint at exhausted power. Scholars stare at a teacher's squeak. His words pierce. They serve as a pistol-shot among a crowd of raging urchins, inflicting a sudden, stinging pain; or the smallest of Gatling guns popping facts and queries in the recitation.

"The low pitch gives scope for rising to

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a climax. The high pitch is at the climax. The former gives a pleasing variety; the latter, an irritating monotony. Deep tones breathe the hearty love of the father, the close fondness of the mother, and the lover's fervid vow. Shrill tones utter the vindictive rebuke of the tyrant, the taunts of the distant enemy, and the competitor's sarcastic criticisms. The low pitch is usually accompanied by the falling inflection, as if it came from a higher being down to the hearer's comprehension. The high pitch associates with the rising inflection, as if it shot upward to higher minds.

"A teacher lowers self in raising the voice and inflection. The ignorant do that in their disputes. 'When two men quarrel, he who raises his voice first is the one in the wrong.' The high tone and rising inflection encourage a dispute. Scholars feel it, and are tempted to reply with disrespect. A teacher raises self by lowering the pitch and inflection. Superiority is instantly felt. This is the tone of power. The parent uses it when love and authority are blended. The statesman uses it, and ennobles his government. The full-souled clergyman uses it, and enriches Christian life.

"High and rising: low and falling! They are contraries. In metaphors, the former is the favorite. In the abstract, it suggests to the imagination desired attainments. In the concrete with voice, we want the latter. The latter is positive, the former, negative. The former hints at doubt, distrust, and ignorance; the latter convinces of unhesitating right. Whatever exasperated you as a scholar more than the teacher with a shrill, squeaking voice, who '*would have* order by fair means or foul,' and who '*would have* that lesson recited, if you had to stay till dark!' What encouraged you more than the full, deep tones of the teacher who said he 'wanted you all to have your own way,' but at the same time made you hope that your way would be his way; and who 'only asked you to do your duty on the lesson,' but made you feel to the depths of your heart that it was your duty to get the whole lesson perfectly! Success in teaching demands the study of self as well as methods, for methods are modified by personalities, of which the tone of voice is not insignificant."

THE SUNBEAM.

"I must be up," saith the sun's bright ray,
"Over the land to roam;
To send my warm and cheering ray
Into many a lonely home:

"Where death has spoil'd the circle.
I will gild the empty seat,
And cast a gleam to the mourning heart,
As I beam in the eyes that weep.

"I must pass through the crowded city—
Creep down the narrow lane—
To smile in, on the sick and old,
Through many a dusty pane.

"And last, on the attic windows
I linger, the gloom to chase,
And many's the anxious brow I see—
Oh, many's the weary face!

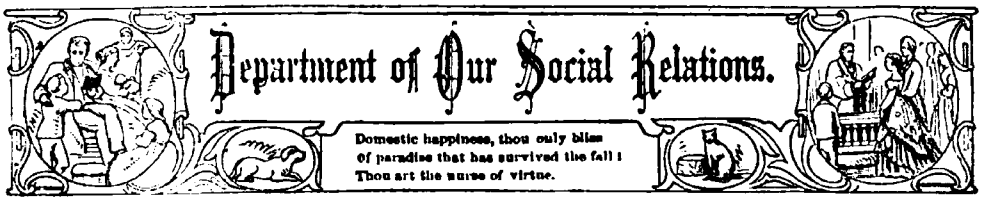
"Till weeping, I pass o'er the mountains,
To dip at the ridge of blue:
While the farmer, looking at the grass,
Remarks on the 'heavy dew.'"

Quebec. WINNIFRED A. ROSS.

POPPING IT "GRAVELY."—An Irish girl, who was very anxious that her scatter-brained brother should not be refused by the demure young Englishwoman with whom he had fallen desperately in love, implored him to try to propose with the seriousness becoming the occasion. He vowed solemnly that he would behave as if he were acting as chief mourner at his father's funeral. The demure young lady, in imitation of many of her countrywomen, graciously accepted her wild Irish lover.

She, however, confided to her bosom friend that Edmund had proposed in rather an odd way. He had taken her after church to see the family vault, and had there, in a sepulchral voice, asked her if she would like to lay her bones beside his bones. This he evidently thought was a proper way to fulfill the promise made to his sister of treating the matter with becoming seriousness.

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SELFISH versus UNSELFISH AIMS OF LIFE.

MAN is a compound being; a mysterious, living force, whose vitality we can not comprehend. But, though we may not be able to comprehend the principle of life, yet we can comprehend the various phases of character which life may exhibit. We can comprehend or at least *compare* a selfish motive with an unselfish one. That an unselfish nature is the highest that can be indulged or cultivated none will deny. But there are those who live so utterly false to this supreme nature, that it is sacrificed at the shrine of a glittering bauble, though it be a fool that holds it up. Though it be a fool that seeks to entice the infatuated victim, still he goes on and *on*, even if it leads him down, *down* to the lowest possible degradation. With this class of people there are many ways through which they worship the deity, the god, the image of their own construction; an image which is stamped in glowing pictures upon the hearts of thousands, whose name is written in legible characters upon their faces. That image is Selfish Success.

Draw near, gentle reader, and witness some of the schemes of plotting thousands for attaining to that standard which they deify, and then gainsay the assertion that they are cheating themselves and cheating humanity if you can.

Here is one with whom to rule is the predominant passion. This is a noble motive if it be rightly indulged; and is a baneful curse when nurtured for selfish purposes only. Witness the scheming of that individual, the deeply laid plots to subvert others. Honor, principle, truth, and justice are sacrificed by him in order that he may establish his Moloch and place himself in a position to reign over those whom he has trampled upon, whom he has torn, and hung, bleeding, upon his shrine, regardless of their plaintive tones for mercy. He crushes life with extreme torture, nips motives in the bud, arrests thought, and exults in his triumph with a fiendish exultation. There are no interests equal to his, and all things are made subservient, if possible, to his will. In short, he is a tyrant, and would be a god to rule the universe if he could gain such distinction.

Here is another whose aim in life presents a very different phase from the foregoing, and yet he is thoroughly selfish. Pleasure is his goal. Pleasure he will win though he immolate himself, and every one connected with him, upon her altar. Were it in his power he would create a garden of unlimited boundary in which he could live forever—in which he could amuse himself forever. Not for the pleasure of giving happiness to others would he do it; but to insure his own happiness, which he thinks paramount to all other considerations. Seeing he is unable to create his garden, he will devise another method for gratifying his perverted senses. What though it wrings the heart's blood, drop by drop, from a trusted friend or a tender companion, he cares not so his own selfish aim is realized. You and I, reader, will compare him with one who constructs a beautiful island—an island to float upon the ocean, or some other body of water. He fills it with exotic flowers of his own choosing, whose rare fragrance intoxicates his senses and unfits him to appreciate danger. There are beautiful vines formed into lovely arbors, inviting to repose and indulgence. There are fountains playing with a ceaseless murmur. There are singing birds among the shrubs and flowers. A beautiful creation, truly, but we look upon the frail structure and shudder at the thought of its dangerous

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state, when far out in mid-ocean, where its floating treasures will be exposed to merciless waves. We try to dissuade him from the perilous doom which we feel certain awaits him; but the warning does not avail. He embarks. He has been so confident of his safe transit that we, too, in a good staunch ship, set sail and follow, at a safe distance, to note his triumph or defeat. For many days the sea is so smooth that he floats in perfect security. He now laughs at what he termed the foolish fears of those who counseled him. He indolently reclines in one of his luxurious arbors, where the rippling music of the fountains and the sweet songs of birds charm his ear, and breathes the heavy perfume of the flowers by which he is surrounded. Enchantment has woven her tissues around him so completely that he does not see the leaden hue which bounds the waste of waters at the horizon. Soon the elements seem to have broken loose, the breeze rises to a gale, and the huge billows that roll against our ship make her tremble and groan fearfully. The storm is appalling while it lasts. When it has ceased, we look out upon the foam-capped waves whose angry roar seems yet a menace, and look in vain for the floating isle of beauty which we had followed. Ah! the ocean will keep its secret.

Perhaps, escaping the storm, he floats on in indolent ease; or, wrapped in his dreams of enchantment, unaware that he is approaching a maelstrom. We ride beyond the influence of the terrible danger, and with stricken hearts watch him go to his doom. He gradually, but surely, approaches with the circling waves until the velocity, the whirling of his floating island, becomes fearful; then he is suddenly drawn into the vortex and is lost.

Perhaps, escaping the maelstrom, too, he may float on until he has almost reached the opposite shore, but he has been regardless of his course, and now, behold, to what a rock-bound coast he is helplessly drifting! We observe that the island has become much frailer than it was when he first launched it upon the ocean; for the cruel waves have unrelentingly worn away its particles. Yet, unconscious of his danger, the dreamer floats on; and, at last, when he thinks his triumph near, his boasted creation is flung upon the rocks and dashed into thousands of atoms. Reader, you may call this a fanciful sketch, but is it not true that those whose only aim in life is selfish pleasure always go on to a fearful end?

Here is another selfish schemer. Money is his god. He has become so callous as to disregard the rights of others; for he robs his fellow-men by depriving them of their just dues to enrich himself. He lives in splendor at the expense of others, and often resorts to harsh and cruel exactions to obtain the gold he covets, and that, too, apparently without compunction.

And here is yet another who would win some literary distinction for a selfish purpose. He, indeed, may act wisely in the estimation of some, but his aim is an unparalleled eminence, and to this end he devotes himself, irrespective of any other claims. He cares not whether his thoughts tend upward to the pure and beautiful, or whether they bear in them a poison that will sap the foundations of truth. Surely such sordid, selfish aims can not make the schemer happy. Compare them with the conduct of the unselfish, the pure, the noble.

Witness the lives of those who live for God and humanity. If a ruler, a sovereign, it is not his own aggrandizement that he seeks, but he devotes himself to the best interests of his people. He is merciful, truthful, honorable, just. Jealousy may hurl her poisoned shafts at his head, and seek to calumniate him by her dark insinuations, but he rises above her with a clear, calm conscience, knowing that God alone is the arbiter of his actions. He wears the regal crown of Truth, and wields the scepter of Justice and Equity. He wins the love, the homage of the pure and noble of earth, and seeks to elevate the aims and alleviate the sufferings of humanity. He is one of God's noblemen, and stands without a peer among his fellow-men. Pleasure, in itself, is harmless; devoted to an unselfish purpose it is noble. He who beautifies his surroundings, his person, his habits, his character, for the purpose of giving pleasure to others as well as himself, is a true benefactor of his race.

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He should wear the royal robe of approbation. Then, again, for an unselfish purpose, the accumulation of wealth is noble. In the hands of a benefactor what good may it not do? The influence, the good may not reach very far. Only a small circle may be benefited; but in that circle may be starving and miserably-clad people, perhaps, who owe their lives, the preservation of their existence, in a measure, and a great measure too, to the kind, beneficent hand that dispensed the necessities of life among them, and, best of all, gave them employment for which they are remunerated in no niggardly manner. Not only are the hungry and destitute fed and clothed, but the eager aspirants for knowledge are assisted in their endeavors to rise above the ignorance which surrounds them, that they, in turn, may become the able instructors of others. Wherever a penny may be applied to the alleviation of suffering humanity, or the elevation of the worthy poor, it is joyfully given, accompanied with the donor's blessing. What a contrast, indeed, to the selfish man!

We have but one more contrast to make —men of literary fame. Here is one who has won a reputation of which some men would be proud; but he wears his honors modestly. His noble thoughts have flowed like a river from his rapid pen, not more rapid, perhaps, than the selfish man's, but they are freighted with principles, with aspirations which lift the reader into a higher realm of thought, and lead him to a nobler life. He did not grasp his pen with the intention of winning distinction; it came to him as the result of his unselfish efforts to create a taste, a wish for purer thoughts and nobler purposes.

Any, or all, of these unselfish workers may be compared with one who takes a journey; whose path at first may be strewn with thorns and overhung with clouds of impending darkness; for what soul that has accomplished some great good for others has not known its days of darkness and sorrow, and been torn by the cruel thorns (words) of some insinuating gossip? But as the traveler passes on with fearless tread, the clouds become broken and scattered, the sun shines forth, and diffuses his genial rays upon the little flowers that are beginning to spring by the wayside; the breeze becomes pure and invigorating, and at last he is surrounded by an incomprehensible beauty and splendor. To such glory and triumph will an unselfish life lead; and then there will be the jeweled crown, and the approving "Come, ye blessed of my Father," and the inheritance of that splendor which "eye hath not seen nor ear heard."

ESTHER MILES.

DOMINANT MIRTHFULNESS.

A FRENCH gentleman with very large and active Mirthfulness, is mentioned in the foreign newspapers as spending most of his time in contrivances to tease officials, and so gratify his love of fun by their embarrassment:

"It is his wont," says the *American Register*, "to pack a huge trunk full of trouser-straps, such as are worn with gaiters, using hydraulic pressure, as if it were necessary to cram five bushels into a three-bushel space, then to lure the inspector to open it as a suspicious package, when naturally the contents are overset, and the whole force of the Custom-house was occupied for hours in putting them back. A powerful Jack-in-the-box was another device of his that was very successful." But more than this is currently reported of this gentleman. It is his practice sometimes to leave a hamper of very high game at a parcel-office, and not take it out, simply sending messengers to inquire privately how the strength of the odor was progressing. When the officers at the parcel-office could not endure the infliction any longer, and threw the hamper away, M. Vivier would appear and politely request the return of his goods. Of course a great commotion would follow, which in every way, often by the aid of lawyers, would be prolonged by M. Vivier to his intense secret delight. Appeals to

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Parisian courts would be threatened to humble village officials, who were warned of the nature of court costs. On one occasion it is said that M. Vivier blandly asked an old gentleman bathing at Boulogne if he had seen the shark. The awful hint spread as a fact far and wide. Next day it appeared that every one had seen the monster. No one bathed. M. Vivier smiled, sipped his Bordeaux, and took his departure, thoroughly gratified. He had his powerful Jack-in-the-box with him to meet all emergencies at the railway stations on the way. Another story is told of his appearing at a railway station with two valises. The officer curtly inquired if they contained anything contraband. "You can see for yourself," said Vivier, blandly offering the key. "What does this one contain?" demanded the officer. "One rattlesnake," replied Vivier, mildly. "And this?" "Two rattlesnakes," answered the humorist, in a pathetic voice. The official started back, muttering. A conference was held. The table of permitted articles was anxiously consulted. "No duty on rattlesnakes for any number less than four," grumbled the officer. "You may go." Vivier gently went.

"GEORGE SAND."

IN the summer of last year two eminent European women died. Of one, Harriet Martineau, we have already had something to say; of the other, Madame Dudevant, or, as she was more commonly known, George Sand, we now will take occasion to speak. For years she had occupied the highest position among French novelists; a rank which she had won by industry, and a most fecund talent; having published, either in book form or in the periodic press, about sixty romances, more than twenty plays, some of which are adaptations of her novels, and many minor works.

Amantine Lucille Aurore Dupin was born in Paris (some say the province of Berry) on the 12th of June, 1804, and died on the 10th of the same month last year, just two days before the completion of her seventy-second year. Her father's family was an extremely old and aristocratic one. . . . . Her father, Maurice Dupin, had incurred his mother's severe displeasure by falling in love without first consulting her, and afterward marrying a pretty girl belonging to the tradesman class, which she considered infinitely beneath her. But before Maurice Dupin had attained his thirtieth year he was killed by a fall from his horse, leaving his wife with several young children, all boys but Aurore, to provide for. . . . . Madame Dupin, the elder, offered to take charge of her son's children on condition that their mother resigned all claim to them. The young widow preferred to keep her boys to herself, but as the little Aurore was only an infant of three years, and would harass her mother in her efforts to gain a livelihood for herself and the others, she was sent to her grandmother.

Her childhood's education, therefore, was received at the family seat of Nohant, where her grandmother resided. She was not restricted to the close school-room, but was permitted to pass most of her time in out-of-door life; even to some extent indulging in the sports of hunting, fencing, and swimming, thus developing and strengthening a naturally strong constitution. Her aged relation was an adherent of the philosophy of Rousseau, and doubtless her expressed opinions exercised no little influence upon the mind of the young girl by planting the seeds of that liberalism which appeared so conspicuously in her mature life. At the age of fifteen she was placed in a convent at Paris, where her education seems to have received its final touches. There she exhibited a high degree of mental capacity, bearing off the first prizes. After two years she returned to Nohant, and a year later her aged grandmother died, leaving to Aurore the family estate, and a handsome income, amounting to upward of ten thousand dollars a year. This bereavement was a severe one to Aurore. She now felt that her mother was the friend to whom she should go for comfort and society, and she did so; but

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that mother treated her so harshly that, at the age of eighteen, she accepted the hand of Casimir Dudevant. After their marriage the young couple made Nohant their residence, and in a short time discovered that their tempers and tastes had little in common. Their differences in disposition led, in the course of years, to positive estrangement, and finally, in 1831, Madame Dudevant obtained permission from her husband to spend some months each year in Paris. It



is said, that in order to secure this liberty, she surrendered what was left of her inheritance. In Paris she lived with her two children in a garret for a time, using what talent and culture she had in the art line to make paintings, ornament toys, candlesticks, snuff-boxes. In order to further her enterprises, and that she might visit the galleries and public places without molestation, she assumed male attire. It was while thus disguised that she met with the author Jules Sandau, and formed that intimacy which probably led her to taking up the pen of the romancer and dramatist. She had previously, it seems, contributed some articles to *Figaro*, but without success. A novel, which she wrote with the co-operation of Sandau, entitled "Rosetta Blanche," found sufficient encouragement from the public to stimulate her to further endeavor; and her "Indiana" appeared under the authorship of "George Sand." This book proved a marked success. It was rumored that the author of "Indiana" was a woman, and this added not a little to the interest in its circulation. Soon afterward "Valentine" appeared, which, in quality, was much superior to the former volumes. Now, having obtained some prestige, she found it not difficult to secure places and publishers for her writings. The *Revue des Deux Mondes* became the medium for the publication of the stories of her pen. "Lelia," which ap-

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peared in 1833, caused a profound sensation, on account of its seeming advocacy of opinions tending to infidelity and social disorder. Many of her former admirers began to suspect her loyalty to religion and the established usages of society.

She had become acquainted with many of the leading writers of Paris meanwhile, among them the poet Alfred Musset, then an impetuous young man of twenty-three. To recruit her health, which had become somewhat impaired by assiduous work at the desk, she started for Italy in his company. At Venice they separated, however, Musset returning to France, and she remaining. While in Italy she wrote "Jacques," "André," "Letters of a Traveler." Returning to France in the early part of 1835, she met the eloquent lawyer, Michel de Bourges, who drew her into politics. There was also Lamenais, with whom she discussed questions of religion; and there was Pierre La Roux, who gave her some insight of new socialistic doctrines. The influence of such men was perceptible in several of her subsequent volumes, such, for instance, as "Simon," "Spiridon," "Consuelo."

Of course, the continued separation from her husband, and her intimacy with other men, whether authors or otherwise, did not serve to render the relations of the husband and wife more favorable to a renewal of personal association than before the wife had left his side; and we find that about the year 1836 Madame Dudevant made application for a decree of divorce, and for the restoration to her of the management of what remained of her inheritance, and for the guardianship of her children. This decree having been obtained, she addressed herself with even more earnestness and freedom to her literary enterprises.

In 1838 she spent a winter in Majorca, accompanied by the celebrated pianist Chopin. We do not think ourselves warranted in an inference that her relations with the pianist went beyond a warm and mutual sympathy for the subjects of art; but the fact is clear that a very intimate relation subsisted between them until 1847. The Revolution of February, 1848, drew her into the political arena again, and so deep an interest did she exhibit in its movements, sustaining with her active pen many of the measures of Ledru Rollin, then a member of the Provisional Government, that it is said her writings, if collected, would make fifty volumes. She had now made Nohant her home, and gave careful attention to the education of her two children.

In 1854 she published in the *Presse* an autobiography, entitled "History of My Life," which, however, is more the history of her mind than of her life—of her thoughts, emotions, and aspirations, rather than of the vicissitudes and events of a remarkable life. Subsequent to that time she wrote several plays, which did not receive the favor which was given by the reading public to her novels, although "The Fine Gentlemen of Bois-doré," of 1862, and "The Marquis of Villemer," of 1864, were very successful. One of her latest publications was a diary, first contributed in parts to the *Revue des Deux Mondes*, entitled "Journal of a Traveler during the War." Later still she published "Impressions and Reminiscences" in 1873.

She died peacefully in the midst of her family and friends; and at her funeral, notwithstanding her known opinions, the offices of religion were not wanting. Victor Hugo delivered an address on that occasion, in which he said: "George Sand is an ideal. She has a unique place in our age. Others are great men; she is a great woman. In this country, whose law is to complete the French Revolution and begin that of the equality of the sexes—being a part of the equality of man—a great woman was needed. It was necessary to prove that a woman could have all the manly gifts without losing any of her angelic qualities; be strong without ceasing to be tender. George Sand proved it."

An American writer of distinction says of her writings: "The prose of George Sand stands out conspicuous for its wonderful expressiveness and force, its almost perfect beauty. She is, after Rousseau, the one only great French author who has looked directly and lovingly into the face of Nature and learned her secrets, which skies and

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waters, fields and lanes, can teach to the heart that loves them. Gifts such as these have won her the almost unrivalled place which she holds in living literature. There is hardly a woman's heart anywhere in the civilized world which has not felt the vibration of George Sand's thrilling voice."

In M. Rouvin's recent work on "The Human Head," in the course of a characterization of this celebrated woman, he gives an opinion which does not accord with that quoted above. M. Rouvin says: "In her Oriental rather than Christian head, the worship of fancy and form predominated; and reason speaking less loudly than the instincts of the artist, sophistry was born mingled and embarrassed with itself. Madame Sand is a potent magician who has abused her talisman, and who will be punished by the forgetfulness into which a good number of her books will fall, or have already fallen. Capable of making masterpieces only, she has preferred quantity to quality—a matter truly of regret."

WHY MAR THE IMAGE?

CHAPTER III.

THWARTED HUMANITY.

"I WILL not go down to breakfast this morning," thought Mr. Harcourt, after having passed a restless night, during whose long hours he had considered very little concerning High Church or Low Church, Apostolic Succession or Ceremonial Law. He had also forgotten to examine authorities concerning the points of doctrine over which he had been in doubt on the previous day, and was now in no mood to look them up, even though the morning was the Christian Sabbath, and he should be compelled to decide them at once or waive the part of his discourse in which they were to appear; in which case he would miss the opportunity to exhibit much elegant rhetoric, which he was sure a pair of gazelle-like eyes would flash and glisten under, could their owner but hear; and should he divide the disputed points in such a way as to raise an issue with the majority of his congregation, there was danger of a controversy that might end in his dismissal. For modern congregations have inherited the habit of looking up their own precedents, and, indeed, have been known to form their own opinions sometimes, without inheritance, thereby augmenting clerical labors and difficulties, without always increasing the clerical pay.

"I'll send word to Mrs. Edmondson that my sermon isn't finished, and then they'll all excuse me," continued Mr. Harcourt, after a long interim, which he had occupied in running his fingers nervously through his dark hair. "No," he thought again, "that won't do, for I told her yesterday that my work was done, and well done. Hang the women! They have such unpardonable and irrepressible curiosity that you can't steer clear of their scrutiny. If I pronounce myself dissatisfied with my work now, she'll know that Miss Summers has had something to do with my present perturbation. Or, maybe, she'll believe me confirmed in the egotism of which she yesterday declared me guilty. Botheration take the sermon anyhow! What do *I* care for points of doctrine? and what do the most of them amount to but speculation, even when we think they're settled? The Sermon on the Mount and the Golden Rule and Eleventh Commandment are doctrine enough for me! But, heigh ho! 'twill never do to make the Gospel so simple that it will not need salaried interpreters!"

Mr. Harcourt's hesitation had made him late at breakfast, and the gazelle eyes that flashed at him with a mute second to Mrs. Edmondson's kindly inquiries after his health, deprived him, as by some strange alluring spell, of the little appetite he had brought to table.

"Do you feel refreshed after your night's rest, Miss Summers?" he asked, in a consciously-awkward way, as though speaking from constrained politeness.

"Quite so, thank you," was the gracious

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reply, but the effort to repress a hacking cough ended in a hollow echo that did not escape him.

"A letter for Miss Summers," cried the florid Swede, who answered door-bells, and who was justly proud of having so far mastered the people's English as to be able to read the address of every envelope that passed through her pudgy hands.

Miss Summers laid the missive carelessly beside her plate, as though in no hurry to examine its contents, but her hand trembled, and an ill-restrained nervousness was exhibited in the lines of her mouth and eyelids. Her voice also emitted a slight, well-guarded tremor, as she replied huskily to some commonplace question about her food.

"Read your letter, if you like; we'll excuse you, Sallie," said the hostess, speaking with a caress in her voice and a tenderness in her eye that was contagious. "Who knows but it's from your adored and adorable? I'm not so far advanced in years but I remember old times and old letters;" this last remark ending in an admiring glance at her husband, who ate his breakfast with commendable gravity.

Miss Summers made no reply, but proceeded to break the envelope with trembling fingers, while a smile of painful anxiety rippled over her firm lips and sent the hot blood of a strange apprehension into the face of the handsome clergyman, in spite of his determination to feel that the young lady or her affairs could be no concern of his.

The missive proved a brief one.

"Mr. Harcourt, will you do me a favor?" asked the visitor abruptly, turning to the clergyman with her great, speaking eyes, and fastening upon him a pleading, half-frightened look.

"Certainly; you have but to command;" and Mr. Harcourt was almost thankful for the bad news, if such the letter bore, which had caused his new acquaintance to favor him with any request, whether reasonable or otherwise.

"I have a relation who is very ill," said Miss Summers, "a near and dear unfortunate, who can not long retain his hold upon an afflicted body. Will you go with me to visit him?"

Mrs. Edmondson nudged her husband under the table with her foot, after the manner of women who desire to express an opinion without audible utterance.

"Shall we have time to go before the morning service?" asked Mr. Harcourt.

"No. Besides, it isn't necessary. After sermon will be time enough. It's a sad, sad story; one of blighted life and thwarted humanity."

Mrs. Edmondson felt a trifle piqued because of her friend's desire to lead the clergyman into a confidence from which she was herself excluded, yet her strong good sense assured her that there was some good reason for her choice that would be afterward explained.

"It's perfectly natural for women with circumscribed lives and over-stimulated emotions to cater to the caprices of clergymen and physicians," said Mr. Edmondson, as soon as he was alone with his wife. "Miss Summers would not have thought of presuming thus upon such short acquaintance if her new friend hadn't been a preacher or a doctor."

"That is the way with men the world over," replied the wife. "They circumscribe women's opportunities and make them weak and dependent, and then find fault with them because their training sometimes brings forth a practical result."

"I wasn't blaming her, my dear," retorted the husband, with more show of feeling than the case warranted. "I was merely stating facts."

But in this he was in error. The truth was, that Miss Summers was not thinking of the clergyman's profession at all when she made her request. Clergymen, as such, inspired her with little of the awe which women in general feel for the cloth. She had been brought up among the profession, her uncle and two cousins having long held important positions, one as a bishop and the others as ministers in the same diocese, and each had been so intimately connected with her earlier years that the little failings of their humanity had often, despite their calling, been perceivable to her unassisted eye. But, woman like, she had divined Mr. Harcourt's awakened interest in herself from

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the first hour of their meeting, and—unlike most women, who see the possible prospects of a marriage which may prove incompatible, and ought, therefore, to be considered impossible—she resolved to bring him face to face with a marred image of the human and divine, which lived in her own home and near her heart, as a melancholy proof that the sins of the parents are visited upon the children to the third and fourth generations.

The sermon of Mr. Harcourt was faultless in exordium, argument, and peroration. It was perfect in diction, intonation, and climax. In rhetoric it was unobjectionable; and its deductions, from assumed premises, logical.

How much Miss Summers admired the handsome and eloquent orator, she was firmly resolved that he should never know. His finely-rounded periods settled themselves in her heart like a rhythmic benison; and yet there was an emptiness in his efforts that rendered them absolutely painful to her inner judgment.

"There's no heart in it, after all," she thought. "He has no personal faith in half he's telling us."

But in the course of the beautiful and impressive responsive readings of the usual service, the earnest melody of the pastor's well-modulated voice thrilled her heart, and she allowed her spirit, guarded as she thought it was, to revel in sweet anticipations of a possible happiness, that was in no wise lessened by the *Gloria Patri* that swelled in tremulous harmony from the pipes of the great organ.

"Are you not going back to lunch before setting out upon your errand of philanthropy?" asked Mrs. Edmondson, as soon as the clergyman—who returned from unmaking his ministerial toilet—had joined the ladies in the aisle.

The question suddenly roused Miss Summers from a rapt reverie in which the reverberating tones of the organ had somehow died away in a symphony much like doves cooing.

"If you please, my friend, Mr. Harcourt has an engagement with me which I hope he will not forget," she said, speaking in a nervous, yet decided way that was bewitchingly irresistible.

"Ah, I beg pardon," answered the lady, with a smile, "but I shall expect you both at dinner."

"Yes—or I speak for myself only. I am not Mr. Harcourt's keeper," said Miss Summers, archly.

"I would to Heaven you were," was the gentleman's reply, spoken in so low a tone that none but she could hear it.

Miss Summers blushed.

"Are you ready?" she asked, as they reached the vestibule, to find the congregation already dispersed, and the janitor impatiently jingling the key of the ponderous doors, while he inwardly said all sorts of ugly things about being kept so long in waiting.

"Yes, I am ready. Whither wouldst thou lead?" he answered, darting a look at her which sent a wilder beating to her heart.

"Come and see," was the terse response, and Mr. Harcourt, full of self-satisfaction over his recently-uttered eloquence, watched her furtively, as, with her eyes on the alert for a street car, she seemed oblivious to all else.

"Eighth Avenue and Sixty-eighth Street," she said, mortifying and half offending the clergyman by thrusting the fare for two in the conductor's hand before she left the platform for a seat.

"It's a matter of principle with me, sir," she said, turning to Mr. Harcourt, in explanation, as the collector of small change passed on. "I invited you to accompany me, and I detest the snobbery which imagines it to be good manners to compel a lady to act in all cases as though she were a pauper. You are not offended, I hope? I surely should have been, however, if you had failed to let me have my way. When you invite me to accompany you upon a round of charity, I'll let *you* 'stand treat,' as you gentlemen say."

She looked pleadingly in his face, and again the gazelle-like eyes thrilled him with a fascination that was irresistible.

"*Offended at you, Miss Summers?* There is only one way you *could* offend me. Shall I name it?"

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"I always offend people when I find out how to do it, and I like you better when I don't make you angry," she said, quietly.

"Then you don't want me to tell you how you could displease me?"

"No. That is, not now. But you can't imagine how humiliating it is to a genuine lady to be always receiving pecuniary favors from gentlemen. I detest the practice."

"I admire your sentiment, Miss Summers, however much I regret its application when I am the party concerned."

"My friends, whom we are to visit, are poverty-stricken," said Miss Summers, changing the subject as much by her manner as her words. "They live up three flights, in a rickety attic flat. I am not in my normal condition when I visit Mrs. Edmondson. She met me abroad a number of years ago. I was employed as tutor and traveling companion to a friend of hers, a few years my junior, and the wardrobe that was furnished me for that journey has amply sufficed me since, with little additional cost. But I am poor, and have poor relations, and I want you to see them and know how they live. You said to-day in your sermon that 'the proper study of mankind is man,' and I want to give you an opportunity to take an important practical lesson in your favorite science. You will pardon my seeming boldness. I have a good reason for inviting you here, which you will understand by and by."

Up three long, narrow flights of stairs, through an atmosphere stifling with close, musty odors, with the way so dark that it could only be safely found by diligent groping, Miss Summers led her friend.

A pale, emaciated woman met them at the door, the quick smile that radiated her pain-pinched features as she greeted Miss Summers, changing to a look of amazed inquiry as her eyes rested upon the stranger.

"Mrs. Harlow, allow me to introduce the Rev. Mr. Harcourt, of whom you have heard. Mr. Harcourt, Mrs. Harlow, my sister," said Miss Summers.

They made a striking picture. Such as one meets too often in the ways of life. He with his elegant broadcloth and spotless necktie and linen. She with the threadbare garments and careworn face; he with exuberant health; she with pain speaking in every feature; he commanding, self-possessed, and gentle; she shrinking, anxious, and doubtful.

"We have a poor place to invite you to sit down," said the woman, wearily. "I'm astonished that my sister should invite you here."

"You ought to know me well enough by this time not to be astonished at anything I do," replied the sister, offering the clergyman a seat upon a chair that had seen better days, herself perching upon a high, old-fashioned bed, covered with a home-made relic of the long ago that whispered of green fields and open fires and a housewife toiling patiently at a battered loom, while she wove the web of her own life into the woof of coming generations, little heeding that the toil and painstaking thus expended upon that which was not necessary as food and raiment, and contributed naught to intellectual growth, was undermining the constitutions of humanity unborn, and leaving these faded daughters as a heritage of unwise domestic manufacturing enterprises.

All this Mr. Harcourt understood at a glance; but he did not yet divine the reason why Miss Summers had invited him to this unpromising abode.

"How's John? Your note said he was failing," said the young lady, while the hectic deepened in her own cheek, and her great, changeable eyes flashed anxiously.

"He is failing sadly, Sallie. My last blighted bud will soon die. It is badly withered now." As she spoke she opened an adjoining door and wheeled a couch into the main apartment, where the cooking-stove and bed formed the principal articles of furniture. "I had just wheeled him out, so I might sweep," continued the mother, with an apologetic glance at the unkempt hearth and an untidy coal-scuttle.

Mr. Harcourt started. What an object met his gaze! Upon the low, white-draped couch lay a little body, not larger than a child of four years, with long arms, and attenuated, though shapely, hands, and a head so covered with scrofulous sores, that in

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spite of the sweet mouth and blue, mild eyes, it was hideous.

"He's as contented a little fellow as ever you saw," added the mother, shaking the pillows gently, and leaning over the hideous caricature upon humanity with unutterable fondness.

"What is his age, madam?"

Mr. Harcourt asked the question partly from curiosity and partly because he could think of nothing else to say.

"He is seventeen years old, and the last of seven who have gone just like him. Our family all have a slow consumption, sir. Sometimes it is in the lungs, sometimes in the head, and sometimes in the bowels, but always in the blood. We inherited the trouble from our parents, who sowed the wind in their ignorance, leaving us to reap the whirlwind in our helplessness. My husband had quick consumption; caught it from me, I'm afraid. At any rate the curse is on us."

"Were all your children afflicted like this one?"

"Oh no, sir. The others had clear complexions and no offensive eruptions; except one whose consumption took the form of nasal catarrh."

"Have you conceived no remedy for these entailed evils, madam?"

"Oh yes, sir. Or if I have not found a remedy, I have at least discovered a preventive."

"What is it, pray?"

"Celibacy, sir. When people are afflicted with organic diseases, that they know to be transmissible, let them act so wisely as not to sin against humanity by getting themselves married."

"Your prescription came too late for your benefit, Mrs. Harlow."

"Alas, I know it well! But it's not too late to save others from the same mistake."

"Isn't your theory a little heartless?"

"I think not, sir. It's no kindness to any man to marry him that his posterity may aggravate disease and death."

"But harmonious observance of the laws of nature would restore most hereditary unfortunates to comparative health. Disease is the outgrowth of ignorance, and when the world gets wiser will be looked upon as a crime."

The sufferer moaned and expressed himself in guttural gurglings, which his mother well understood. His heated face and head were sponged with milk and water, for which favor he smiled gratefully; after which, throwing back his head, he sank into a slumber that produced horrible breathing exhalations.

"Shall I join you in prayer, my dear madam?" asked the clergyman, kindly.

"Yes, when you reach your closet, where we are all commanded to go when we pray. I shall be with you in spirit."

"What did you want me for, Thankful? You wrote, asking me to call," said Miss Summers, as if anxious to change the subject.

"I wanted to see a human face—yours above all others. The grocer leaves my packages at the door, and there's no one else to speak to. I haven't seen him for a week, and I thought you wouldn't mind coming. I knew you were to be at Mrs. Edmondson's to-day. But take my advice and don't you ever marry."

"Shall we be going?" asked the young lady, while a nervous chill sent a tremor through her body, and her cough was held in check with difficulty.

"If you are ready," replied the clergyman, in whose brain yet lingered the suggestion of Mrs. Harlow, to do his praying in his closet. After all, was not that the command of Jesus? And wasn't it as binding as any other? He had caught an idea.

On the way home the street car was so densely crowded as to prevent further conversation; but it was well. Mr. Harcourt and Miss Summers were both too busy with unutterable thoughts to seek vent in their expression.

(*To be continued.*)

HOW IT WAS BROUGHT ABOUT. — A New York daily is responsible for the following romantic account:

A lawyer, while in the store of a client, whose counting-room overlooked a North River pier, saw a letter floating in the wa-

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ter. He stepped out of the office, fished up the letter with his cane, and opened it. It was written in a fine, running hand, and was bright and interesting, addressed to "My dear uncle," and bore the full signature of a Portland lady. The lawyer sent the letter to the lady, with a note describing the manner in which it had been recovered. In answering his letter, she explained that the "dear uncle" was captain of a steamboat plying on the Sound. Letters were exchanged, and there was a wedding in Portland late in February, and now there are two happy people in Plainfield, N. J.

"HOW MUCH?" AND "HOW MANY?"

"How much was he worth when he died?"
"A couple of millions clear,
Plenty of railway stock beside,
And part of a mine, I hear:
There are few who could follow where he did lead;
He died a very rich man indeed!"

"But how many friends has he left?"
"Neither wife nor child, they say.
Not one heart that will feel bereft
At the news it hears to-day;
Not a single soul for him to weep,
Not a heart his memory to keep."

"Then I think he was poor, my friend,
But a pauper millionaire.
Oh, it was but a beggarly end,
To have owned no single share
In the only wealth a man can save—
Love that follows him over the grave."

LILLIE E. BARR.

VERBENAS FOR THE GARDEN.

THE term Verbena is applied to a family of plants which comprises a great number of varieties, many of which are favorites in the gardens of Europe and America. The name comes from the Latin, signifying a sacred bow. The varieties of Verbena run from small, half-trailing plants, to strong, tree-like growths, one of which, the teak, is an important member. The ornamental sorts which are now so popular are the results of numerous crossings and skillful culture, in the course of which the characteristics of the original plants have been quite lost. It is said, by a writer in the *Agriculturist*, that the first garden Verbena was brought to this country from Buenos Ayres in 1835, by a resident of New Jersey, who gave his plants to Mr. Thos. Hogg, the pioneer of horticulture in New York. These Verbenas were the crimson, *V. phlogiflora*, also called *Tweediana*, bearing a rose-colored bloom, and a white one, whose name is now unknown. About this time the Verbena became popular in England, having been taken thither from Buenos Ayres, but to Mr. Hogg belongs the credit of having raised the first successfully in America.

With these and one or two other varieties which our florists obtained from Brazil, a series of hybrids was obtained, comprising almost every color and shade from white to the deepest maroon. A yellow Verbena and a decided blue have, as yet, eluded their efforts, although a close approach to blue has been made, and horticulturists are introducing yearly new mixtures of color.

The brightness and remarkable variety of their markings have made Verbenas so popular, as well as their easy culture and adaptation to mounds and borders and general bedding purposes.

The plants when established grow with great rapidity, usually attaching themselves to the soil by the roots thrown out at each joint; when a variety is not disposed to do this, it may be kept low by fixing the branches to the earth by means of hooked wooden pegs or bent wires. Cuttings of the Verbena, root with the greatest ease. In early summer they can be propagated to any extent from cuttings an inch long placed in saucers of sand that are kept constantly wet and exposed to the light; but for propagation in cool weather, bottom heat is needed. Verbenas seed freely, and the raising of seedlings is not only an easy matter, but a

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very fascinating occupation, as it is likely that a packet of seeds will give a number of different forms and colors. Fair success attends the sowing of the seed in the open ground, but plants so raised are much later in coming into bloom than when the seed is started in a hot-bed.

The aim of the florist is not only size and substance in the flower, but also a distinctness of marking—a bright center or eye to each floweret, and in the striped sorts no blending of colors.



CLUSTER OF VERBENAS.

The well-known lemon Verbena is of a different genus from the ordinary scentless

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kinds and requires a different treatment, being deciduous and needing a season of rest. It can be trained in the form of a tree with a distinct trunk and round head. The bunch of Verbenas accompanying these remarks contains several popular varieties, some of which, notwithstanding the lack of color, other than the black and white of common printing, may be recognized by the reader.

LETTERS FROM THE SOUTH.

No. IV.

DEAR JOURNAL:—I had a visit, during the cold weather, from the most delightful little gentleman in the world. He came in a sleigh, like Santa Claus, and like that Christmas patron-saint, he dispenses good gifts and makes the children and their mammas happy wherever he goes. You may be sure he created a sensation in his sleigh, drawn by a couple of stout mules, in lieu of the reindeer; for a sleigh is a *new* thing under this Southern sun of ours, but in this case a very convenient thing; there being at that time the heaviest snow on the ground seen in North Mississippi in forty years. Actuated by his obliging, benevolent spirit, our little old gentleman from Pontotoc, from the county of hanging grapes (Indian signification of Pontotoc, by which designation he is in the habit of styling himself), went to work the day after the *first* snow, and not a little to the damage of his small hands constructed a slide, which, though far from being a fac-simile of the painted, buffalo-berobed sleighs in the chromo of "A Northern Scene," which hangs over my mantel-piece, yet answers the same purpose. Flying around in this astonishing manner, with a bag-full of oranges, and no end of sweets, he was the veritable good genius of the children, who are equally captivated by his sunny blue eyes and his beautiful smile, disclosing a set of teeth in pearly preservation, despite his fifty years. Oh, he is the loveliest little gentleman, this dapper little representative of "old school" manners, delightfully surprising us with his quick, brisk motions, his gay laughter, his sonorous outbursts of singing, and his exuberance of gladsome spirits. Years have touched his heart so lightly that he seems, at times, really boyish, which is, no doubt, the secret of his great influence over boys, and the source of the attraction which draws them to him. You should have seen him when I introduced him to my old friend Mrs. McIvor, and her daughter Sallie. He bowed low over the old lady's withered hand, adding to my introduction his usual explanatory phrase, "From Pontotoc, madam, from the county of hanging grapes; a bachelor, madam, by no fault of his own; allow me, madam, the honor of kissing your hand —the hand of the mother of such a lovely daughter," bestowing on Miss Sallie at the same time a look of profound admiration. While he was at our house I was telling him about the flourishing colored school taught by the tenant of one of our outhouses. Said I, "The colored people hereabouts take advantage of the free school privilege with far greater zeal than do the working class of whites; and some of the latter are really inferior to the freedmen in intelligence as well as integrity."

"Oh, but," says my impulsive little gentleman from the county of hanging grapes, "the Caucasian race are inherently *superior* to the negroes; no educational advantages can ever make them equal."

"I don't know about that," said I, "it depends very much upon their environments and heredity. I have heard you complain of the excessive dullness and enormous gluttony of your white waiting-boy, 'Stopper Sam,' whom you hired chiefly as a means of relief to his mother, poor and a widow. Do you think Sam's head contains twelve verses of poetry?"

"Poetry," echoed the little gentleman, clapping his small hands and throwing up his tiny feet so high in his exuberance that he nearly capsized, "why, Sam don't know B from bull-frog; he's as ignorant as a week-old calf."

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"I'll call Arthur to repeat some verses for you," said I, and going to the door I saw him cutting wood for his mother, the colored teacher, and beckoned to him. He came into the room presently, modestly taking off his cap, bowing and saying, "Good afternoon." "Arthur," said I, "here is a friend of mine for whom I want you to repeat some of your poetry."

He paused a moment, looking very diffident, then raised his velvety black eyes and recited the beautiful poetic story of the Captain of the *Ironsides*, whose little son, one day in a spirit of hardihood,

> "Climbed shroud and spar, and then
> Upon the main truck rose and stood,"

where he was perceived by the crew with horrified amazement, being beyond their aid. His father came on deck, and with that wonderful presence of mind which comes to some like inspiration in time of imminent danger, grasped a rifle, and aiming it at his son, said—

> "'Jump far out, boy, into the waves,
> Jump, or *I fire*,' he said;
> 'This chance alone your life can save.
> Jump! Jump!' the boy obeyed.
> He rose, he sank, he moved, he lived,
> He for the ship struck out,
> On board we hailed the lad beloved,
> With many a joyous shout.
> The father drew, with silent joy,
> Those wet arms round his neck,
> He folded to his heart the boy,
> And fainted on the deck."

This touching poem was most pathetically rendered by little Arthur, with appropriate inflections and emphasis. When he concluded, the sunny blue eyes of the little gentleman from the county of hanging grapes were as full of tears as my own. Drawing a silver half-dollar from his pocket, he silently pressed it into Arthur's palm.

V. D. COVINGTON.

INCIDENT ON THE ST. JOHN'S RIVER, FLORIDA.

A tropic sun was sinking slow,
When, on our river's breast
A yacht lay, with its folded sail,
Anchored as if for rest;
The water with its rippling waves
Seemed made of purpling gold;
In softest strains of melody
It rippled 'round her hold.

Why stands she there, as twilight dim
Creeps over earth and sea?
What bears she on her deck this night?
What can her treasure be?
Her "treasure" is a sweet, young life,
Breathing our summer air.
"Past hope, past cure," the north winds say,
But Love doth not despair.

A father sits beside his child
Holding her wasted hand,
And in his tender, soothing tones,
Tells of this sunny land.
"And are we anchored safe," she says,
"And can not drift to sea?"
These simple words are two-edged swords,
What can his answer be?

His lips frame "Yes," but in his heart
A choking "No" he feels;
And though he smiles above his child,
His soul in anguish kneels.

The air is stirred, he hears an oar,
From lusty lungs ere long
"My old Kentucky Home, good-night,"
Falls on his ear in song,
While skimming o'er the happy waves,
Freighted with hope and health,
A dainty boat is passing fast,
Bearing a mother's wealth.

'Twixt mother, oarsman, and her son
A few short words are said.
The rudder turns, the yacht is reached,
And there beside that bed
Under the still and quiet sky
Those stranger parents meet;
While flowers and fruits are gently laid
At the poor sick girl's feet.

What need of words? Silence and tears,
As bending o'er his own,
A faint "God bless you," with a sob—
Again the two are 'lone.
The mother clasps her rosy boy
And thinks with shuddering breath
Of that pale girl and of that sea
T'ward which she drifts, called Death;

And in her inmost heart she cries,
"Give me content, not wealth;
For what is power, or gold, or fame,
Compared with God's gift—Health?"

MATTIE A. BRIDGE.

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True philosophy is a revelation of the Divine will manifested in creation: it harmonizes with all truth, and can not with impunity be neglected.

THE SHIPWRECKED SAILORS.

A WOMAN ON CIVIL ECONOMY.

SUCH is the title of one of a series of stories illustrative of political economy, from the pen of Mrs. Fawcett, the wife of Professor Fawcett, Chancellor of the Exchequer of Great Britain.

As her husband has, of late years, been, by an accident, deprived of his eyesight, he has been much aided by her in his studies and writings, and thus her attention has been concentrated on social science to a remarkable extent, she being "only a woman, you know."

It is said to be most touching to see her daily conducting her husband to his seat in Parliament (when it is in session), and her intuitive perception, even anticipation, of his requirements.

Although we do not accept all the Chancellor's conclusions in the so-called science to which he is devoted, we have an entire admiration for his abilities and honesty of purpose. We deem his analysis better than his synthesis, and his power of "putting things" concisely is unexcelled. For instance, speaking of closing the public libraries on Sunday, he says they are closed to the public on the only day when the public could avail themselves of them.

We quote from the story as follows:

"Once Captain Adam and some twenty of the passengers and crew of a sailing vessel were shipwrecked on a small uninhabited island in the Pacific. They were like Robinson Crusoe in one respect, which was, that they were fortunate enough to be able to save a number of things off the wreck, which they found to be of immense value and comfort. They were not able, like Robinson Crusoe, to go to their vessel before it broke, and ransack it for the most useful things they could find; they got nothing that was not washed ashore, so they obtained, altogether, a very motley collection. Their rule was that whoever found anything was the owner of it, or, as it was more tersely expressed by the sailors, 'Findings is keepings.' The consequence of this rule was that there was very soon a great deal of buying and selling in the little community. Three men, for instance, succeeded in hauling to the shore a case, which proved to contain twelve dozen pairs of boots of various sizes. This bit of good luck made them for a time quite the capitalists of the little community. In exchange for the boots, which were very sorely needed by their companions, they obtained a share of the most useful things that had been found. One man who had found a case of spirits, came and offered a bottle of rum for a pair of boots. [Certainly a good exchange for the rum-man!—ED.] Another man had found a box of carpenter's tools, and it so happened that he was quite unable to use them to advantage, whereas one of the men who had found the boots was a carpenter by trade, and very much longed to possess the box of tools. A harder bargain never was struck than between these two men. The carpenter began by offering a pair of boots in exchange for the tools. 'Nay,' said the other, 'boots are very well in their way; but they tell me you have got scores of 'em; and I reckon I can get something more than a pair of boots for my tools. Besides, I rather think I shall keep the tools myself. I am not such a fool but what I can drive a nail and use a saw almost as well as if I had done nothing else all my life.' They were not able to come to any agreement, and the

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finder of the tools so far got the best of it that he succeeded in getting a pair of boots from one of the other men in exchange for the loan of the saw for one day. By this time, the little colony were busy in making themselves small wooden huts in which they slept, and where they found shelter from storms. As the process of building these huts went on, Green, the man who had found the tools, discovered that by lending them he could obtain either a share in what had been found by the others, or an equivalent in the form of labor. 'Lend us the axe and mallet, old fellow,' said one, 'and I'll give you three dinners off the fish I catch in the morning;' or, perhaps it was, 'Lend me the saw and plane to-day, and you shall have half the number of planks that I am able to make in the time.'

"It was not long before Green, and indeed, all the party, found that amateur carpentering is a very expensive process. One man chopped his toe off with the axe, when he was trying to cut down a tree, and was laid up for a month. The planks, that had been sawn and planed by an apothecary's apprentice, might have deserved to be sent to a museum of curiosities; but they were certainly not in their right place when he tried to make them into a door and keep out the blasts of a tropical hurricane. But the shipwrecked sailors not only found that it was easier to cut and bruise their own toes and fingers than to convert the young palms into decent habitations; there was another, and perhaps a more serious disadvantage attaching to their unskillful work. Green often found when the tools were returned to him that they had suffered almost as severely as those who attempted to use them. The teeth of the saw were bent, the edge of the axe was turned, the chisel was broken in half, and almost as many nails were broken and bent, or were knocked in in the wrong places, as were driven home exactly on the spot where they were wanted. These various misfortunes made everybody see how much better things would go on if the carpenter did all the carpentering that was needed by the little colony. If the carpenter hired the tools of Green, Green would lose nothing, for the carpenter could give him more for the loan of them than any one else, because no one could make such good use of them as the carpenter. The carpenter would also be a gainer, because he would then be able to turn his skill in his trade to the best account, and would get all his wants supplied by his companions in return for the services he rendered them. Finally, the entire colony would gain by the carpenter having the use of the tools; for, instead of chopping off their toes, bruising their fingers, and spoiling the tools, with the worst possible result in the carpentering line, they now saved their own skin, the tools were not injured, their carpentering was well done; and in return for the services of the carpenter, every man and woman gave him a share of what he or she was most skillful in producing or most fortunate in finding. The advantage every one enjoyed from this division of labor was apparent: the carpenter had no need to leave his trade, in order to go hunting or fishing; he had very little skill in these pursuits, and had sometimes been out all day without bringing home enough for supper. Here was folly and waste of time! If he had stayed at home he could have finished Jack Collins's hut, and made a strong bench for Mrs. Collins; while Jack, who knows the ways of every bird that flies and every fish that swims, would bring back enough game and fish to last all the next day for himself, his wife, the carpenter, and half a dozen others; and Mrs. Collins, the swiftest of knitters, whose bench would have been a strange production if she had made it herself, would have made a pair of strong socks for the carpenter, in return for the bench. It was therefore agreed on all hands that every one should find out what he or she could do best, and stick to it. Jack Collins and two others were able to provide the whole company with as much fish and game as they could eat. Mrs. Collins was in great request in consequence of her skill in knitting, mending, and patching. One man, who had been a blacksmith, found that the best thing he could do was to melt down all pieces of old iron, copper, and other metals that were washed up with the wreck, and convert them into nails, saucepans, etc. He

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was also able to repair the damage done by the unskillful use of the carpenter's tools. Every one, in fact, found that there was some way in which he or she could be more useful than in others. There were two children, who were always hard at work collecting firewood for the blacksmith and for cooking; and they also searched about on the shore for pieces of the wreck that had copper bolts in them, or any fragments of metal, which the smith was not long in converting into pots and pans.

"There was one man who had been a passenger on the ill-fated ship, who was certainly not very well adapted to a Robinson Crusoe life. Mr. Davies, on a desert island, was about as much at home as 'a whale in a field of clover.' He was a man who had always acted on the principle that to have a new hat once a week, new lavender kid-gloves every day, innumerable suits of clothes, no one of which he ever wore more than three times, to smoke the most expensive cigars, to drink the rarest wines, to eat the most costly meats, and consume fruits and vegetables only when they were entirely out of season, was good for trade. He now found, however, that this way of encouraging trade was not appreciated by his companions; he expected that the best of everything on the island would be brought to him for his acceptance, and that if he approved it he would have the opportunity of buying it and paying for it with a cheque drawn on a New York banker. His disgust when his cheques were refused, and when the dainties he coveted became the possession of those who could give either labor or other commodities in return, was amusing to witness. . . . .

"Poor Mr. Davies was a long time before he could get over his notion that the way to make everybody well off was for him to do nothing, and to eat as much as he could, and to destroy the products of his companions' labor as fast as possible. He was only prevented acting on this opinion by the stubborn resistance that was shown to it on the part of his comrades; and that the only demand for labor is that which is ready to supply commodities to the laborer in exchange for those which his toil produces. If you demand commodities, you must supply the laborer who produces them with an equivalent value of some other commodities or services. So demand and supply can not increase independently of each other. If demand increases, supply must increase at the same time. For instance, if Mrs. Collins wants the carpenter to make her a bedstead, she must supply him with a whole suit of clothes; if her demand increases, and she wants, besides the bedstead, two chairs, she must supply him not only with a suit of clothes, but with a dozen pairs of knitted socks into the bargain. It will be noticed, that if production increases, demand also increases; if, for example, Mrs. Collins finds out a new way of knitting, by means of which she can make three pairs of socks in the same time that she previously employed to make two pairs, her power of buying the products of other people's labor is increased 50 per cent. Her demand for these products therefore increases in consequence of the increased productiveness of her own labor. It accordingly happens that general prosperity and an increased demand for commodities nearly always go together; as the increase of production gives those who benefit by it greater power to purchase the products of other kinds of labor; in other words, increased prosperity makes a greater demand for commodities possible."

After following the Islanders in their history for twenty years, in which, untrammelled by many mischievous institutions of ordinary society, they had largely increased in number, solved some problems of political economy, created the germs of agriculture, manufactures, and commerce, and multiplied their instrumentalities for wealth, Mrs. Fawcett most provokingly leaves them then, there, and thus:

"There is nothing more about the little colony that I can remember, except that after being on the island for twenty years they were visited by H. M. S. *Leo*, the captain of which offered to take away half the colony in his vessel, and to send for the other half in a few months. Only twelve of them, however, wished to leave at all. The others thanked the captain, but said they didn't

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wish to leave their island and begin life over again on the other side of the world."

Disliking to lose sight entirely of our interesting friends the colonists, we obtained the special aid of Queen Mab, assisted by an able corps of spiritual and clairvoyant experts, and are enabled to supplement their history down to a very late date.

Our industrious friends, especially after their inventions of labor-saving machinery, found their production in excess of their consumption, and, though by general consent, they shortened their hours of labor, bestowing more time to study and, in a rude way, to ornamentation of their village, yet surplus production increased, resulting in most remarkable accumulations.

For instance, Tom Porter, one of the sailors, invented and constructed a knitting machine, which enabled Mrs. Collins to knit as much in one day as she had formerly in ten.

While the poor fellow was evolving the same, he was so absent-minded that he capsized and lost three boats, and was nearly drowned a dozen times; hardly ever caught a fish, but on the contrary, almost daily lost his "hook, line, bob, and sinker;" got the reputation of being the most shiftless man in the colony, and, if report tells the truth, was more than once poked out of bed by his wife with a marline-spike to make the breakfast fire.

In consideration of all of which, as with the machine her power of producing stockings was multiplied by ten, Mrs. Collins agreed that she would give him half her products (less cost of stock), as even then she would obtain five times what she did formerly.

As Mrs. Collins, by very hard work, had been able to supply the people with stockings *before* the machine came, she now not only piled poor Tom Porter's hut full of stockings, but could not stow away her own surplus, until she put the price down one-half and ran half the time on gloves, when she got big pay, and kept herself and Tom Porter well stocked up with her accumulations.

The carpenter had a fearful lot of oars and clothes-pins. Enough fish were salted for a dozen years to come, and the trouble was, not how to get a living, but how to dispose of the surplus products.

A town meeting was held under a big banyan tree, and a committee of seven was appointed to report on the same, of which their old Captain (Mariner) was Chairman and Mr. Davies, Secretary.

The committee was unable to agree, but the majority, including Captain Mariner, reported thus:

"Your committee find that we have been hitherto successful in recognizing, obtaining, and retaining the great elements of 'the right to labor and to the proceeds of that labor,' but while every man is assured in the possession of his products, he is, excepting to the very limited extent permitted by barter, precluded from enjoying the products of other men's labor, though possessed of the will and ability to give therefor a full equivalent.

"Mrs. Collins wishes to build a factory, and Mr. Plane, our carpenter, would like to build it for her, as he has nothing to do, having made enough clothes-pins, oars, and broom-handles to last twenty years.

"But Mrs. Collins has nothing but stockings and gloves to pay for the same with, which Plane says are worse stock than his wooden-ware, as the moths are very destructive.

"Your committee are of the opinion that the growth of this township is now so large that, to a certain extent, the individual should be merged in the commonwealth as a first step, and should lay out the streets in an orderly and pretty manner; and next, it should erect public buildings for a church, a school-house, a theatre, a lecture-room, etc., using the lower stories for stores and work-shops.

"By this means the present tendency to excessive individual over-production and non-convertible wealth, would be diverted to collective or societary endowment. As an indication of exactly what each citizen's share in the proposed township improvement should be, a Board, a Council, or a Bureau should be formed, that should distribute or pay to each contributor in tokens, to be designated as may be decided—wheth-

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er called dollars, pounds, tickets, or tallies—in as exact proportion as may be possible, according to his contribution to the same, such tokens to be the mediums for the transfer of values from hand to hand as the ratios of supply and demand may indicate.

"And the said tokens should be receivable at their face-value for whatever dues may accrue to the township, whether for rental of stores, halls, or anything else.

"Your committee think that the institution of such tokens would relieve the deadlock now prevailing as to the products and employment of industry, and by facilitating exchanges, enable the projected private buildings and other enterprises to be immediately begun.

"Your committee acknowledge great assistance in their investigation, and are inspired with the entire confidence in their recommendations from the perusal of a most valuable book by one Jonathan Duncan, kindly left us by our old friend, the Captain of H. M. S. *Leo*, from which we extract as follows:

"'Daniel De Lisle Brock, Governor of Guernsey, was waited upon by a deputation of the principal townsmen of St. Peter's, who requested his countenance and assistance towards the erection of a covered market, much wanted in that town. The Governor readily consented, and asked in what way he could assist them most effectually. He was told that the principal difficulty was to raise the required funds. The Governor replied that if that was the only difficulty he thought he could surmount it, but would ask first, if they had the requisite stores of bricks, timber, granite, and flags, but, above all, had they the skilled artisans and laborers required for the building of the market. They replied that there was no want of labor or raw material; that their difficulty was chiefly financial. "Oh," said the Governor, "if that is all you want, I will, as Governor, sign, stamp, declare legal tender, and issue five thousand one-pound market notes. With these pay for material and wages. Go to work and build your market." The market was commenced. The first effects were to animate trade by the additional circulation for payment for slates, bricks, etc., and to increase the customs of the shops by the expenditures of the workmen employed on the market. In process of time the market was finished, stall rents became due, and were paid in these notes. When the notes all came in, the Governor collected them, and, at the head of a procession, with some little form and ceremony, he proceeded to the town cross and publicly burnt them by way of cancelment.'"

FRIEDRICH FROEBEL,

THE FOUNDER OF THE KINDERGARTEN.

THE system of teaching young children which goes by the name of "kindergarten," has become of late years well known in this country. The history and character of the man to whom its invention and application were mainly due are not so well known to the public. Friedrich Froebel was a man whose retiring habits and social position prevented him from taking that place among his people which was eminently his, although the earnestness with which he applied his method of teaching in the schools with which he was connected, made him an object of warm regard in the place where he dwelt. He was born in the Thuringian Forest, at Ober Weissbock, in the Principality of Schwarzberg Rudolstadt, on the 21st of April, 1782. His father was a minister in that village. His early life was not one of pleasantness. When but an infant his mother died, and the pastor, whose parish was large in territorial extent, had no time to devote to household matters and his children, so that they were left to the care of servants. His father married the second time, but the new mother did not indicate much affection toward her step-children, especially after she had some of her own. Friedrich did not, as a child, show facility in learning; his father found much difficulty in instructing him in the simple elements of education, and as he grew up his

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sensitive nature shrank from the dispute and conflict which often made his home their theatre. At the age of eleven an uncle, also a minister, came to visit his father, and conceiving a fondness for him, requested Friedrich's father to permit him to go and live with him in Stadtlin. In this new home he found advantages which had been entirely unknown in his previous life. There his mind was awakened, and he studied with freedom and success. The time having come for acquiring a knowledge of some trade, or avocation, his father sent him to a forester to be taught woodcraft, geometry, and surveying. With the forester, Froebel had opportunities for private study, and used them in acquiring a knowledge of botany and languages. Much of this study was done in so much secrecy that the forester was not aware of his industry, and on the conclusion of his apprenticeship, that worthy man wrote a letter to Friedrich's father, stating that he regretted that the young man would return home with but little information, and that it was altogether due to his lack of diligence and industry. His father taking this statement as true, did not welcome the son very cordially upon his appearance at home.



In his eighteenth year he was permitted to study in the University of Vienna, where he gave special attention to the physical

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sciences, living in a very retired and economical fashion. He was subsequently sent to a farm to learn its practical methods, his father being desirous that he should devote himself to agriculture. But young Froebel had very little taste for this vocation aside from the opportunities afforded to study nature scientifically. After the death of his father he occupied several positions in succession in different places. At length in Frankfort an opening presented itself for entering upon that line of activity which was in keeping with his capabilities and yearnings. He was offered the position of a teacher, and accepted it. There he became interested in the Pestalozzian system, which had then begun to attract attention. Froebel was not altogether satisfied with the way in which the method was practiced, and after a year or more of observation and thought upon the relation of the teacher to the pupil, he concluded that the first requisite and true mode of teaching was to live with one's scholars, and enter into all their feelings and pursuits. He went to Yverdun, where Pestalozzi had his school, and as a pupil with pupils studied the system of that great master. Next we find him in the University of Gottingen studying the Oriental languages and sciences. It was not until 1816 that he made the attempt to establish a school of his own, and then in a small Thuringian village, with five pupils his labors began. The times were those of scarcity; the nation was still disturbed by the consequences of the wars of Napoleon, and it was no difficult undertaking for Froebel to maintain his educational enterprise, its very novelty being one of the obstacles to pecuniary success. He says that from 1817 to 1827, when he left the school, its affairs were in a state of chronic bankruptcy. His trust, however, in the final success of his cause was unwavering. In 1818 he married an accomplished Berlin lady, who proved a true helpmeet in the conduct of his household as well as in the management of his school.

One element in the opposition to Froebel, the one by no means inconsiderable, was that of religion. Priestly influence arrayed itself at first against him, declaring his new methods pernicious in morality. After giving up his school in Thuringia, Froebel appears to have experienced many vicissitudes. At one time losing heart in his own country he went into Switzerland, and made an effort to establish a school there. He had a season of happiness in Burdorf, where, in 1835, he was made Director of an orphan asylum by the Cantonal Government Director. He had no persecutions to endure in the free atmosphere of Switzerland, and the Government even sent young men to him for training as teachers.

The idea of the kindergarten was uppermost in his mind, and he busied himself with interesting and developing the minds of the children. His aim was to arrange the gifts, or apparatus peculiar to the system, so as to form a harmonious series, one logically preceding another. His wife's health becoming impaired, he found it necessary to leave Switzerland for her benefit, and went to reside for a time in Berlin. There he worked out more completely his ideas of infant culture, visiting nurseries and infant schools which had been established under royal patronage. He began also to edit a weekly paper, with the title *Ein Sonntags Blätter*, a Sunday paper, published in Leipsig, in which he explained his method, and his "gifts," or school material.

In the little town of Blanckenberg in Thuringia, at no great distance from his old home, a house was taken for the practical test of Froebel's new occupations. Children came to him, and the method, after a little trial, was found to work most favorably.

In 1839 Froebel went to Dresden, where he lectured upon his educational system. The Queen of Saxony, and other distinguished persons, showed their interest in the new mode of education by their presence and attention, and a school was started under the direction of one of Froebel's pupils. In the summer of 1840 he resumed his activity in Blanckenberg, from time to time extending its facilities, and adding fresh features; one of these, a training-school for mothers and young girls, is important enough to be specially mentioned. In 1843 he published his book, "Mother's

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Cosseting Songs," with illustrations and music. In 1849 he found it expedient to remove his training-class to Liebenstein, in the duchy of Meiningen.

The kindergarten system had, by this time, won the approbation of several of the German nobility and of the people wherever it had obtained a footing. In 1851 its superiority over other methods of juvenile training had been so abundantly demonstrated, that there was no question about its adaptation for that purpose. But then Froebel was to receive a severe blow. The Prussian Government mistaking the influence of the kindergarten method, and probably won over by bigoted short-sightedness, issued a decree, characterizing public kindergartens as dangerous to society, and suppressing them. Froebel felt, after the promulgation of this decree, as if his whole life-work were crushed. His susceptible nature shrank from the suspicion and opprobrium which such a public measure would cast upon him, and for upward of fifteen years he and his great work lived under an unjust ban. In 1866 the decree was revoked. Fifteen years were required to make the officers of the Prussian realm acquainted with the high moral and social principles of the kindergarten, and to clear away the scales from their eyes which prevented them from viewing it as some contrivance tending to undermine the foundations of the political fabric.

Froebel was getting on toward old age when this proscription was levelled at him, and coming from a source so unexpected, it seriously affected his poise of mind and body. Nevertheless, he worked on, conducting his school, and replying to the personal attacks made through the public newspapers. He outlived the publication of the decree a little over a year, dying on the 21st of June, 1852.

Froebel had married a second time; in fact, but a few years before his death, and his widow faithfully kept up the school begun by him, being in perfect sympathy with his motive and objects. One of Froebel's warmest friends and supporters, the Baroness Marenholdt, says that "he had great simplicity of heart, of morals, of character; he was humble as a child; the expression of his face was so pure, innocent, and childlike, even with hair white as snow, as I have never seen again in any other human being. . . . Devoted to his mission, he abandoned for it, not only renown, but his most beloved pursuit of natural science, of which nobody, perhaps, saw the mysteries and secrets so well as he, but which he only would make serviceable to the perfection and sanctification of the immortal human soul."

Several years ago the kindergarten system was introduced into this country, and has found favor wherever the attempt has been made to establish a school. It seems very likely that it will prove the parent of a more effective and harmonious system of juvenile education than this country has known. The improvements which have been grafted upon our general system of common schools find a very harmonious adaptation to the methods of the kindergarten.

"ON THE FENCE."

BY LYDIA M. MILLARD.

Once in a fearful battle
The birds and beasts engaged,
To prove which were the greater,
And high the contest waged.

A bat, from his position,
Thought neutral he'd remain,
Until he knew for certain
Which side was sure to gain.

So, from a fence commanding
A most extended view,
He watched the birds' hard fighting,
And watched the beasts all through.

He kept his wings and spirits
So very fresh and cool,
Watching each party's merits—
Predicting which would rule.

At length, the beasts prevailing,
He active joined their fight;
The birds, a rally making,
Was found with them at night.

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At last, when peace concluded,
Since he for both did fight,
Nor bird nor beast would own him—
He skulked away from sight.

Since then, earth's holes and corners
Are his abiding place;
Except in twilight's darkness
He durst not show his face.

. . . . . .

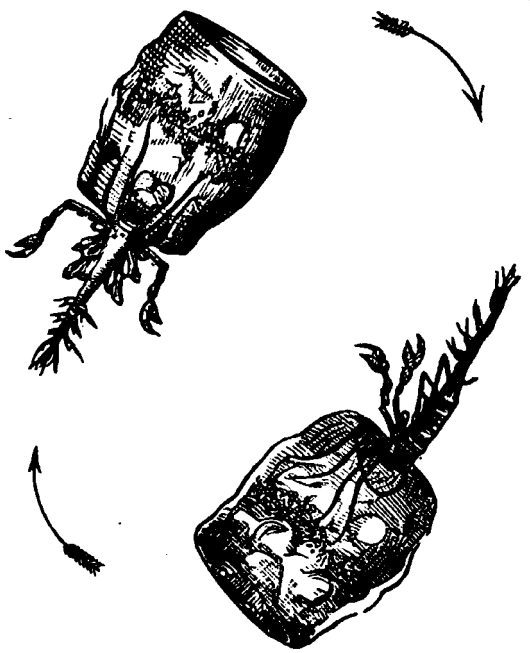
How many men are sitting
Like bats upon a fence,
'Waiting a breeze befitting
To jump off hence or thence.

As in the world of thinking
Two sides must always be,
Each great soul unshrinking
His own right side will be.

Better a nail's firm power
In the humblest cot unknown,
Than a cock on the highest tower,
That moves with the wind alone.

THE SEA TUMBLER.

AS science progresses with its investigations we become more and more deeply impressed with the fact that the great world of nature teems with wonders. On land, in the sea, and in the air there appear to be numberless organisms, whose bodily structure and peculiarity of habit startle at first sight even the most learned among naturalists. The visitor to an aquarium on a large scale, finds in the tanks much material for reflection upon the origin and nature of the universe. The strange fishes which have been gathered from remote regions burst upon the view like a revelation, as he proceeds from tank to tank. Expeditions which have gone out with a view to taking soundings of different parts of the ocean have brought from its gloomy depths varieties of fish totally unknown before.



THE SEA TUMBLER.

The illustrations herewith furnish views of a very curious marine creature, which was found in the waters of the South Pacific by the officers of an ocean survey, a few years since. This little animal requires somewhat close observation in order to ascertain the character of its formation. It is a minute crustacean, or shell fish, or, as we might more clearly say, a member of the lobster and crab family. The name by which it has been introduced to science is Phronima. In ordinary parlance it is very appropriately termed Tumbler of the Sea. In some respects it appears to be a combination of the crab and fish, having feet like the crab, which are adapted for walking upon the beach, or bottom, and an apparatus, or swimmerets, for swimming. Its peculiar organization has placed the phronima in the order *amphipoda*, or double-footed. Its head is long, and joined crosswise to the body; its eyes, which are very numerous, are distributed, some on the back of the head, some in front, and others on the sides of the head; the mouth and swimmerets are red in color, while the remainder of the body, including the bony case, is almost transparent.

Like one of its relations, the hermit crab, the phronima mounts a little second-hand, barreled-shaped tube, which has served the purpose of another marine creature, and

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been abandoned, and in swimming appears to go tumbling head over heels through the water, exhibiting some of the oddest of antics. Its smallness renders it all the more interesting, its tube, or case, being only about five-eighths of an inch in length, and in breadth half an inch. Naturalists are of opinion that it is the female only which adopts the extra barrel or tube, making it a receptacle for her eggs and the apartment in which she brings up her young family. In our illustration, the eggs and young are indistinctly visible through the wall of the tube. When swimming, the phronima has her head and three segments of the thorax, or neck, inserted into the tube, and holds fast to it by her third pair of legs. Sometimes, on the approach of danger, she draws the whole of her body within the tube, thus, like the snail, obtaining safety from the attack of many foes.

HOW JENNY TOOK CARE OF HER.

WE came across the following little story years ago, and now it turns up again. There is a lesson in it which old as well as young may ponder:

A child ill with hip disease was brought into a certain asylum in New York—a little girl of five years old, who, from fright or weakness, cried bitterly on her admission. Another girl, a little Swede of about nine, heard her. "Is she crying because she has left her mother?" she asked the matron. "No; she has no mother; she is an orphan." "Her friends, then, may be?" "She has no friends; she has nobody in the world to take care of her, unless she finds one here." Jenny, the little Swede, stood for a minute or two soberly looking at the stranger. She was not a pretty child, nor attractive in any way, being homely, diseased, and ill-tempered. "I think *I* will take care of her," said Jenny, gravely. "I'll be a friend to her;" and she went over to the stranger, then and there, and began to soothe and humor her. The matron, thinking it only a passing childish outburst, paid no attention to it, even when she found that Jenny had secured a seat at the table next to the child, and had managed to have her placed in the bed next her own in the dormitory.

When the story was told to us, a year afterward, the little girl had never failed once in her self-imposed trust. As far as was practicable, she took the place of a mother or elder sister to the child, who, still lame and suffering, needed a constant attention and care which the matron and nurses could not give. She cut and prepared her food at meals, humored her peevish fancies during the day, and at night was in the habit of lying down half dressed, to be ready to spring up at a moment's warning, and she passed many a night, it was discovered, holding the child's head in her arms or soothing her.

On any holiday or when visitors came, Jenny's first anxiety was to make her little charge presentable, just as a fond mother would do; and when the children were once given an excursion, or an afternoon's romp in the grounds, Jenny had an excuse to account for her not going, and actually, although her tears choked her, she being but a child, would have stayed, patient and cheerful, beside the lame child, who could not go, if her deception had not been found out. The singular part of the story was, too, that the child was not a lovable nor grateful one; but peevish, jealous, and tyrannical toward her poor little nurse, who apologized for and made the best of her to others, after the habit of mothers. There were many other children in the asylum prettier and more winning; but Jenny was true to the one whose only recommendation was, that "she had no friends."

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HOW TO TEACH.*

LOCALITY—*Continued.*

EVERYBODY knows that carrier-pigeons have been used for centuries to send army dispatches home over the heads of hostile foes. In the late war between France and Germany, the beleaguered city of Paris was kept in communication with the army at Lyons by means of carrier-pigeons. Before communication had been cut off by the besieging army, some Paris pigeons had been taken to Lyons, and pigeons from Lyons having been taken to Paris, and kept for the purpose, messages could thus be sent by the pigeons both ways, keeping the government and the army in intimate correspondence.

THE BEE-LINE.

It is also well-known that bees fly in a straight line when they have loaded themselves with honey. Hence a straight line is called a "bee-line." Having thus been wandering from flower to flower, in a thousand circuits, until loaded, it takes a sweep in a circle, say ten yards in diameter, as if to collect itself, then darts off in a direct line for its hive; and it will come back again into the same vicinity, if the place be a desirable one, to reload with honey. Bee-hunters, taking advantage of this fact, put their honey-box or trap where it will attract the bees as they are flying back and forth. Finding it easier to load themselves from the honey than from the flowers, the bees light upon the bait; and when they start for the hive, or tree where they live, the straight line which they take indicates to the hunter the direction of the tree, and thus by following in that line, with the box of honey, a short distance at a time, and depositing it before the bees return, the hunter gets after awhile near enough to the bee-tree to trace the bee direct from the bait to its home, when the bees are treacherously robbed of their treasure of honey.

The faculty of Locality in the bird, the bee, the pig, the horse, and the dog, is the foundation for these wonderful results. If, then, bees have this instinct of place; if animals, large and small, manifest the same trait; if birds that go South in the winter remember and come back to the same place they occupied the summer before, it shows that there is an instinct or faculty for remembering place and direction. It is a doctrine of phrenology that whatever faculty can be found in any of the lower animals, a corresponding faculty will be found in the human race. Man himself, in respect to faculty, is all that can be found in all the beings below him, besides having that which animals lack—namely, the higher reason and the moral sentiments.

ROAMING FOR THE RESTLESS LOVE OF IT.

Those in whom this organ is large and the faculty active, have an insatiable thirst for traveling, and many thus become rovers, going around and around the world; and there is nothing of which they feel so pleased and proud as to say they have been in every country on the globe, and also in every large city. We know a man who made a special journey to visit a county in his native State, within the confines of which he had never been, for he felt ashamed to say that there was a county in his State that he had never visited. We often hear people say: "What does

* From "How to Teach, according to Temperament and Mental Development; or, Phrenology in the School-Room and the Family." By Nelson Sizer. S. R. Wells & Co., New York, Publishers. Price, by mail, $1.50.

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he know? He has never traveled!" Another says: "I am posted. I have seen the world. I have been all over!" as if having traveled hither and thither was a great acquisition and a high culture. It is one form of culture, and a good one. He who has never left his native home—more especially if he has no particular disposition to study geography, and thus travel, in imagination, by using the maps and charts of the world, having never seen anything but his own neighborhood—has, in one respect, a very narrow mind. Some men have little desire to go to see any place which is not visible from their own door-step. They go to church, to the store, to the post-office, blacksmith-shop, and grist-mill, and seem to have no interest to go beyond. We saw a man who lived all his life within seven miles of Niagara Falls—indeed within hearing of its roar—and he had never visited it, though he was a man of sense and of property. A gentleman told us that his father, who resided within forty miles of New York until he was seventy years of age, and had secured an ample competency in business as a farmer, being worth many thousands of dollars, yet he had never been to New York. The faculty of Locality must have been very dormant within him. We remember to have examined a man who was born at the head-waters of the St. Lawrence, on Lake Ontario, who had such a thirst for seeing distant places that he broke away from all restraint, at seventeen, and engaged in lake navigation, from the simple desire to see Niagara Falls, Buffalo, Detroit, Chicago, etc., because he had not the means to make such a journey except by working his way, and he remarked with a kind of exultant feeling: "I have enlisted in the army as a private soldier, though I leave a good farm, and a loving wife and family at home; but I so desire to see Baltimore, Washington, New Orleans, and other large cities which, as a soldier, I may have the opportunity to visit, that I take the risks. If I live to return, I intend to cross the ocean as a sailor, that I may see portions of the Old World." This man, we noticed, had the organ of Locality enormously developed; and having dwelt at length upon it, he gave us this scrap of his history in confirmation of our description of him. Such persons leave home with pleasure; and though they have ties which unite them to their friends and home, their master-passion leads them to forget every inconvenience and privation which leaving home, and being among strangers, is calculated to produce. If Humboldt, Sir John Franklin, Bayard Taylor, Dr. Kane, Dr. Hayes, and others, had been less endowed with this faculty, the world would never have read of their wanderings, and the knowledge acquired by it, with such intense interest. To go somewhere, and to see something, is a very strong trait with such men, and the world is very greatly indebted to them for the explorations which have grown out of the activity of this faculty. The bust of Capt. Cook, the great navigator, and all his portraits, show an immense development of this organ. See Fig. 21.

CHESS, CHECKER, AND BILLIARD-PLAYERS.

This faculty aids the player of checkers and chess, and no man can play billiards with success without its activity, and also that of Size, Weight, and Form. Locality gives the idea of direction; Weight gives a sense of the proper force to drive the ball with the requisite momentum, so that, hitting another ball, the resistance shall be just sufficient to produce the proper angle or direction to hit a third ball, with the proper force and right direction, to send

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it to its pocket. Billiard-players will understand this.

It is known that some great chess-players can play many games blindfolded, and keep the real and relative position of all the men on the chess-board, on as many as six or eight boards at the same time, while every move on the several boards changes the relation of the pieces, and the memory of the location of all these must be held in the mind. We think it is a very severe tax on the mind, and one that would hardly pay for the strain; and we are not surprised to learn that one of the greatest chess-players of the world was recently compelled to make his retreat in an insane asylum.

USES OF LOCALITY IN GEOGRAPHY.

The reader will now be prepared to understand some of the uses of the faculty of Locality in the study and teaching of geography. Suppose the teacher is in Boston, New York, Philadelphia, Baltimore, Richmond, New Orleans, St. Louis, Chicago, or San Francisco. His pupils, of course, wherever located, must obtain an idea of the places they are to study about, which, in their early years, they have heard of, but never seen. Not one pupil in ten, in Boston, for instance, may have ever been in any other of the principal cities in the country, and even the major part of that city he has never seen. He knows the road to school, to church, to the houses of a few of his relatives and friends, and perhaps to the cemetery, and that is all the geography he has learned practically; but when he opens his book, he is fortunately not now obliged to commit to memory a long description of how the Ohio River is formed, and remember it as a statement, as his grandfather had to do. He is not obliged to remember, as a lesson to be committed verbally, that New York is some 200 miles from Boston, in a south-westerly direction. He looks on his map and sees for himself, and instantly the faculty of Locality gives him specific consciousness of the direction; and if he knows which way north is, if the teacher were to ask him, "Where is New York from Boston?" he would point almost near enough in the right direction, if the line were extended, to touch the little island on which the city is situated. Ask the pupil the direction to Buffalo, and he will look up with utter astonishment; but if he will turn to his map, he will find that it is almost directly west from Boston, and that his eye takes in Albany, Schenectady, Syracuse, and Rochester on its way over the map to Buffalo. Then he gets an idea that these places are directly west of him. If he is directed to continue the journey, he will find Detroit, Chicago, Omaha, Denver, Salt Lake City, and San Francisco; and though the line has to bend a little to hit all these places, the distance is so great that a "westerly direction" will be sufficiently accurate to describe their location. The pupil in Boston learns that New York is located south-west; also Philadelphia, Richmond, and New Orleans. When these and other important places are learned by the pupils on the map, under the direction of the teacher, the maps should be closed, and each pupil should be questioned quietly as to the location of places which have been the subject of study, and it will be observed that perhaps three out of four in a class will have a pretty correct notion of the direction. But one-half of the pupils will need some training. They are not brilliant in respect to the law of direction, and they learn the facts from the other pupils; and thus they are stimulated to renew their efforts, and many

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of them will go home and study their atlases with fresh interest.

STUDYING GEOGRAPHY IN NEW YORK.

Let us leave Boston, and enter a New York school. They have the same atlases, the same maps of Canada and the United States. The teacher asks: "Where is Boston situated?" "South-west" is not the answer, as it was in Boston; but on the other hand, "north-east." Whereas Albany is north, but in Boston Albany was west. "In what direction is Buffalo from New York?" It is not west, as it was in Boston; but it is north-west. And so Schenectady, Utica, Syracuse, and Rochester, each have a different local direction from New York, but they are all practically west of Boston. Having traveled, then, 200 miles south-west to New York, we find that all the places north and east of us, and many of those which are west, are not in the same direction from us as they were in Boston. When we are in New York, and ask the direction of Philadelphia, the answer is "south-west," the same as from Boston, and Richmond is almost in the same direction, and so is New Orleans; but at New York we have not gone far enough south from Boston to change materially the line of direction of places so far away as San Francisco; but when we consider Cleveland, Detroit, and Chicago, the line of direction is different.

GEOGRAPHY IN PHILADELPHIA.

At Philadelphia a class of pupils, like those at New York, would look north-east for Boston; but in reference to Buffalo, again a different angle of direction would be assumed from that which would be correct in New York. So of all the other places between Buffalo and Boston. Albany, the capital of the State of New York, would no longer be north of the student, but east of north. If we go to Cincinnati, Buffalo has become north-east; Philadelphia, almost due east; New York and Boston, north-east; Chicago, directly north-west; Detroit, almost directly north; Charleston, south-east; and New Orleans, south-west or west of south; while the capital of Texas would be almost south-west; but San Francisco is west, and Montreal would be north-east, while at Boston, Montreal is north-west, and at New York and Philadelphia, nearly north.

Going to New Orleans, everything again changes in relative position. Suppose a teacher worked a year in Boston, a year in New York, a year in Baltimore, another in Richmond, another in Cincinnati, another in Chicago, another in New Orleans or San Francisco—and such a thing is possible—his teaching of geography, his conception of it, would be very different from year to year.

A SCHOOL ON WHEELS.

Now why not have pupils taught, while in Boston, to place themselves in New Orleans (in imagination), with atlases closed, and be required to tell from there the direction of every other place. A large outline map might be made on the blackboard, showing the Canada line, the Atlantic, Pacific, and Gulf coast-line, not nicely drawn, but simply in rough outline; and the teacher, with a long wand in hand, might ask the school the location of some particular place. He might put the stick in the center of the board, and ask how he should move it in order to locate Boston; and he would continue to move it, under their direction, until one said, "Stop." And some one would say, "Move it a little more to the right;" another would want it a little more toward the top; a third would say, "A little more toward the center," until they had located Boston to their satis

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faction; and there let a mark be made with the piece of chalk that is fastened to the end of the stick, and if he chose, he might put a letter B there. Then let him ask for the location of San Francisco, and the pupils would be wide-awake in telling the teacher how to use the wand, until they were satisfied that it rested in the right place, and then let him make a mark; and so he might locate, according to the judgment and direction of the pupils, till he had all the principal places in the United States located. If the pupils were in grave error about the location of any place, the teacher should settle it before he made the mark; but he would soon find that the pupils would be wide-awake under this sort of teaching, and he would have to keep his eye on the atlas in order to correct the localities which they unitedly would make.

Having made these localities on the blackboard, he would take his school, in imagination, to Chicago, and ask them what then would be the location of all the places they had marked down. Imagining themselves in Chicago, they would learn to judge the relative location of all these places; and when they had settled upon what the location really was, meridians might be drawn east and west, north and south, and then they could very easily determine the nominal direction from one place to all other places.

Then the pupils should move to Montreal, and consider the direction from that place to all other places, and so from one part of the continent to all the other parts, until their minds became so familiar with the geographic locations that they would only have to think of Cincinnati in order to know how to locate from that place all other places.

Having attained to this point, and the pupils being familiar with the method of locating the different places, and of course knowing in what States they were respectively, they would very soon begin to understand so as to know how to draw maps. The teacher could then stand with his wand, with chalk attached to the end of it, and ask what direction he should draw a line, beginning at the north-western boundary of the State of Maine, in order to describe that State, and he should go slow, under the direction of the pupils, and stop when they said "Stop." Then he could go on with New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut; then the great States of New York, Pennsylvania, and Ohio. The mistakes which would be made thus, under the direction of the pupils, would be apparent, and of course amusing. They would get their States laid out, and perhaps have a great deal of territory left; but they might draw the outline of the New England States, and then draw the States of Texas and California. Or it might be better, perhaps, to draw the rivers and great lakes first, for these are natural boundaries, and have the political divisions come in afterwards.

It will be seen that, in this method of teaching geography, the faculty of Locality is brought into exercise. The moment we begin to draw the maps of the States, the faculties of Form and Size are brought specially into use; but the mere outlines of the States have more to do with the faculty of Locality, because that relates to direction, and if a pupil studies his map, he will see the direction of the outlines of the States. The faculty of Form will give him the general shape of the whole; but as geographic outlines are made first, Locality takes into cognizance the direction of the lines.

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GEOGRAPHY A LIVING FACT.

Instead of the dry drudgery of looking at a map, or studying the text of a geography, let the questions of geography become a literal fact to the pupils. Chicago will become interesting to him, besides its mere name—for it has a place, and a direction, and a distance from other places. The question of distance of course involves two faculties—one that of Size, and the other that of Number, or Calculation, since it is expressed in numbers. But a pupil looking upon the outlines of maps with the great towns upon it, if he can know that it is 2,500 miles from Boston to San Francisco, and 1,200 miles from Montreal to New Orleans, and 200 miles from Boston to New York, or 150 from New York to Albany, or 90 miles from New York to Philadelphia, he will very soon learn to estimate distances on the map from one place to any other place.

We submit that this is the kind of geography that pupils should be taught in school. It is never learned now until the pupil has traveled it. We laugh over the ignorance of people on the other side of the water, in respect to the geography of America, when, in point of fact, if we were asked questions in regard to the Old World, without having an European map before us, we would make blunders equally ridiculous. During the war we saw in an English paper a description of "Jersey City, opposite New Orleans, on the west bank of the North River." Letters are sent sometimes from England to "Boston, State of New York;" and Boston is spoken of as the "capital of New England," as if there were not five other capitals of as many other States in New England; besides, until recently, two States with duplicate capitals. When a man starts out for the first time to make a journey of 1,500 miles, it amuses one who has a practical knowledge of the geography of his country, to hear the questions such a man will ask, and see with what wonder he will look over his map in the railway guide.

The utility of such a practical knowledge of geography must be manifest to the reader, and if he will learn it for himself, he will feel that it is a source of pleasure. It makes him almost ubiquitous. He can stand in the capital of any State by imagination or in fact, and seem to see all other States, and all the places of importance in them. He can thus go everywhere and yet be at home. He is not a scholar in geography until he can do this.

Let us now imagine the atlases closed, and let the pupils in geography, little and large, be in session for instruction, in what we will call mental geography. Would not all the pupils know the statement that Albany is north of New York, or that it is west from Boston, or east from Buffalo? That statement might be learned just as we would learn the rigmarole—

"Thirty days hath September,
April, June, and November," etc.

That is a rehearsal like a stanza of poetry, and we thereby get the facts as to which months have thirty days and which have thirty-one, as a *statement;* but the intrinsic fact of the days in each month of the year should be remembered independently of that rehearsal. So we might learn to rehearse facts in geography. One might lie in bed, in some place far from home, without knowing which way from him is north, or south-east, or west; and it would be well enough then for him to say, Albany is west of Boston and north from New York, and east from Buffalo and south from Montreal.

NELSON SIZER.

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A SUMMARY OF HYGIENIC SCIENCE.

IT is commonly supposed that the most ordinary mind is able to distinguish the healthy from the unhealthy. In many cases they can; but not as a rule. For instance, it is generally considered that obesity or fatness is a sign of good health. No greater error was ever entertained. Adipose tissue is essential to the rotundity of the body and to good health; but when in excess the surplus is not only useless, but detrimental to well-being. It is a diseased condition of life; just as much as an emaciated condition of body is an evidence of morbid vital action. Suffice it to say, that the functional integrity of the vital organs is disturbed in a greater or less extent when the body is in either a condition of obesity or emaciation. No respectable physician would risk his or her reputation in an attempt to controvert this view of the matter. Let this delusion be dispelled and abandoned as soon as possible, and it will be as soon as the people are intelligent upon the health question.

Dr. Trall defines health to be "normal vital action—the normal play of all of the vital functions; and this means that state or condition in which each organ and part performs its own duty." In my own language I call it that condition of life in which the powers of the economy are at the normal standard. These definitions refer to perfect health. Such a state of human life at the present day among civilized nations, probably is nowhere to be found. It exists only as an ideality.

The terms robust, good, feeble, delicate, etc., are commonly used to designate different degrees of the healthfulness of the living structure. Slight variations in the action of the physiological functions should not be considered as abnormal or unhealthy. Nature allows us a liberal deviation from regularity of vital action without any great, if any, detriment or inconvenience. Good health may be considered that condition of life wherein there is a moderate regularity of the action of all the vital functions.

How to keep well when well is an attainment or a possession of much value. If there is such an acquisition, few persons in these days acquire it. Certainly no one will attempt to deny the existence of certain agents that promote and preserve the health when they are properly used; nor is there any one who maintains that health is a mere matter of chance. Health is dependent upon certain established natural laws. The knowledge of these regulations of nature constitutes the science of life. Hygiene, or the art of preserving health, consists in the application of this knowledge.

The leading principles of Hygiene are reducible to a few simple rules.

One of the first and most important is the use of good, wholesome food at regular times, and in quantity sufficient to supply the needs of the system. There is some diversity of opinion in respect to what constitutes the best food for man. Some say that it should consist of vegetable and animal products; while others claim it to be a regimen exclusively vegetarian. If authority is to be our reliance and guide in determining which of these positions is the correct one, the conclusion would be subject to the bias of prejudice and education. There is high authority on both sides. Cicero says, "We ought to place more reliance on reason than on the weight of authority."

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This is the only true way to settle all questions. It is an established fact in science that all alimentary compounds are produced by vegetable growth and development; and also, that no animal forms, but only transforms these substance into its tissues. The products of animals feed plants, and *vice versa*. This is the order of nature. No human ingenuity can change it. Again, the animal that bears the closest resemblance to the human species subsists in its native state upon vegetable food. There are a few instances in my personal knowledge of individuals who have adopted a vegetarian regimen, and with it obtained better health and greater powers of endurance; and many instances of those who almost, but not quite abandoned the use of animal food, and with beneficial results. When vegetables and grains are of poor quality, and made much worse by bad cookery, a well-prepared, mixed, and selected diet is, without question, the better one. The flesh of the herbivora is a much better article for human food than many of the farinaceous preparations of the present day.

The so-called auxiliary or accessory foods are not to be recommended. None claim them to be alimentary in their character. They modify or change the vital action in the same manner that all unusable materials do that are introduced into the vital domain. They are abnormal things, in the true sense of that term. Then in the use of all accessory aliments, the less the better.

It is not our purpose or province to enter upon an elaborate discussion of this subject. But from the few facts presented, the candid and reasonable mind can not fail to see that the most wholesome regimen consists of grains, fruits, and vegetables, when good of their kind and properly prepared.

Regularity of meals should be the rule. There are but few graver causes of impaired digestion than that of irregularity of eating. This eating between meal-hours is a pernicious practice. It matters not so much whether a person eat two or three times a day, provided the food is of good quality and is taken at regular times. The quantity is easily adjusted to the proper amount, when the above precautions are taken. Voracious appetites and gluttonous habits are the natural results of the use of unwholesome food and pernicious beverages.

Cleanliness is an indispensable condition of human health. Many persons are not aware of its importance. Experiments have conclusively proven that a healthy person excretes about three and one-half pounds of organic matter from the external skin in the twenty-four hours. Now, if any of this material is retarded in its exit from the body through the skin, more work will be imposed on the other excretory organs. If this is prolonged for some time, the integrity of the action of these organs will be more or less impaired. A proper use of water will generally prevent the impaired health which would otherwise result from such a cause. It is surprising that so many individuals neglect their person in this respect. So many are afraid of water in cold weather. The bath and ablution are almost as essential to cleanliness and health in winter as in summer.

Probably many of the disorders that prevail so extensively and fatally in the winter months might be greatly mitigated, if not entirely avoided, if proper attention were given to this subject. A brisk rubbing of the entire body with the dry hand each morning, just after rising, and each evening just before retiring, are excellent means of promoting balanced circulation and preserving the health. A full bath of mild temperature, or a tepid ablution once or twice a week, are of much benefit to most persons, and there are but few individuals who can neglect these hygienic means without an impairment of the health. The clothing worn during the day should be removed *in toto* on going to bed. This rule should be observed for manifest reasons. Why we mention this and insist upon its observance is because so many persons entirely disregard it. A rigid cleanliness in dress and habitation is not only an indication of good breeding, but is conducive to the preservation of health and prevention of disease. Soiled linen, dirt, and refuse should be viewed as the deadly upas tree, spreading contagion and sickness all around.

Good air is in demand in many dwellings,

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churches, and lecture-halls. Much as is known of the importance of good ventilation, it is surprising how much it is neglected. In the dense and crowded cities the hygienic nostrils are continually insulted with the fumes of tobacco, and the noxious gases arising from filthy back-yards and poorly-drained privy vaults. The individual who lives in such places can not avoid breathing such air until cleanliness becomes a public virtue, and the devitalizing condition is suppressed. In rural districts, as a rule, the air is more wholesome with the exception where the farmer persists in having his pig-sty and stable near, if not adjacent to, his back-yard gate. Let all such nuisances be discontinued. If swine-pens must be kept, let them be far away from the dwelling. Too much attention can not be given to this subject of breathing pure air. Rebreathed air is poisonous. The unimpaired sense of smell is sufficient for all practical purposes to warn us of the presence of an impure atmosphere.

Exercise, or "something to do," is an essential condition of good health. An old writer observes: "Ease is not to be acquired unless it be combined with toil; for indolence is generally attended with dissolution." Truly, life is only compatible with exertion and action. Few do not know that playful and lively children are generally healthy, and that indolent and indisposed ones are usually sickly. I am disposed to think that laziness and indolence are dependent upon an abnormal condition of the organism, and that the healthy adult can not be otherwise than active in body and mind. Exercise should never be violent or irregular. Systematic labor, whether of body or brain, is better for the individual, and is usually more effectual. Those who have no work to do have a weary, wretched life; they have no motive or incentive to action. Give them something to do—some good to be attained, or some evil to be avoided—and their imaginary ills will vanish, and you will make them useful and happy.

"Nature lives by toil,
Beasts, birds, air, fire, the heavens, and rolling worlds,
All live by action; nothing lies at rest
But death and ruin."

Lastly, a few words on mental influences:

Probably, there is no hygienic means that has a greater sanitary influence than that of a cheerful and well-tempered mind; and perhaps nothing exhausts the vital energies and disorders the bodily functions so effectually as a fretful and irritable mentality. Let the passions be our servants, and it is well; but let them be our masters and they will not only rule, but ruin us. The moral and intellectual faculties have a powerful sustaining and preserving influence over the life forces. All who have ever felt the holy influence of love and the blighting tendency of hatred can not fail to appreciate this part of our subject. The passions should be regulated and controlled; they are not to be abhorred nor an attempt made to annihilate them. There is no faculty or propensity given us that will not contribute to our good when properly used. The use of every human endowment is good; their abuse is evil. A reasonable exercise of the emotions has a beneficial effect. Fame, wealth, and power may honorably command our aspirations. When such is the case, the exertion of the mind and exercise of the body necessary for their attainment are generally rewarded with energy, spirit, and health. Let it be known that the legitimate use of all our powers, whether of body or of mind, is conducive not only to our health, but also to our highest good.

Those who have been blessed with health almost all of their lives may think the regard enjoined here to special precautions and directions is puerile. But if health is maintained, a good of the highest value is secured.

Health is the instrument by which wealth, intellectual culture, and fame are attained; the essential to any positive and beneficial work. Health is the chain that unites us to friends, and makes our companionship a source of pleasure and profit. Health enables us to meet the ills, trials, and disappointments of life with fortitude and serenity; to worry not over the past, but to improve the living present with zeal and earnestness. Health enables us to be useful and happy.

With such incentives to the maintenance of health, surely none but the indifferent would be careless in respect to the employment of those means that are likely to guard them against sickness. NOVICE.

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THE CAUSE OF SLEEP.

ON this interesting topic many savants have delivered opinions. Professor Preyer, of the University of Jena, in the course of an address before the Forty-ninth Congress of German Medicists and Anatomists, expressed the following opinion, quoting also from eminent authorities:

In proposing any theory of sleep, I start with the fact, that weariness of the senses, especially of the organs of sight and hearing, of the muscles, and of the nerve-centers, always produces a natural sleep, and as the organs of sense may be considered as the peripheric end-organs of the sensory nerves, and the muscles as the peripheric end-organs of the motory nerves, it might be said that sleep appears when the end-organs of the nerves are tired out. The reason of this is, not a solitary mental process can take place without oxygen, which the arterial blood carries to the brain. As soon as the ganglia-cells are deficient of this blood-oxygen, the higher faculties of consciousness are extinguished, the faculty of thinking is interrupted. Where the cell of the ganglia has plenty of oxygen, these faculties go on in their normal state. This supposition is not yet proven, but very probable. Alexander von Humboldt, in his essay *On the Irritated Muscular and Nerve-Fiber* (1797), uses the remarkable expression: although it does not look fair to affirm, that thinking consists in chemical processes, or that it is the consequence of mechanical concussions, still it may not be unphilosophical that, simultaneously with the thinking in the organ of the soul, chemical changes and fibrous movements appear, during which it requires more oxygen. In fact, numerous experiments prove that, of all tissues of the organism, the tissue of the brain, with the exception perhaps of that of the liver, is most able to extract the oxygen from the blood. After ligating the blood-vessel carrying the oxygen, the functions of consciousness cease; after numerous hemorrhages, sleep sets in. The cause of this is want of oxygen, for experiments demonstrate that states similar to sleep can only be brought on by withdrawal of oxygen. Animals kept in a breathing-space artificially closed were allowed, by the sole process of their breathing, to dislodge the oxygen by azote, and in the same ratio gradually the manifestations of consciousness decreased, whereas they again reappeared as soon as oxygen was admitted. The question is pertinent, whether also natural sleep may be produced, that at certain times the gray substance of the brain has less oxygen at its command, and whether this arises that less blood and thus also less oxygen is carried to the brain, or that as much blood as in the waking state flows to the brain, but that the oxygen is used up in a different manner? It has been often affirmed that this alternative has not been solved yet.

Marshall Hall and Haller believe that the veins are overfilled during sleep, whereas Blumenbach leans to the opinion that the quantity of blood in the brain is diminished during sleep. Durham, 1860, experimented on animals. He trepanned them, and observed the blood-vessels of the brain when the animals slept. He found at first a dilatation, and during the sleep a contraction of the blood-vessels, and came to the conclusion that during sleep a diminution of the quantity of blood takes place. But a closer observation evinces that these experiments failed to prove what they ought to have done, inasmuch as Durham narcotized the animals. It was not a natural sleep, but an intoxication. And we have Nasse's experiments, which do not agree with those of Durham. He trepanned the animals without narcosis, and did not find a contraction of the blood-vessels. Valentine proved the same in the winter sleep of marmots. They did not wake up during the process of trepannation, and no contraction took place. Hence we may conclude that natural sleep is neither caused by an increased, nor by a diminished, supply of blood, and the only supposition remains, that the oxygen during sleep is used up in a different manner from what it is in the waking state. During exercise of the brain, as well as of the muscles, a kind of peculiar material, called, "mate-

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rial from weariness," forms, which accumulates in quantities corresponding to the intensity of the activity, is very oxidable, lays hold of the oxygen during sleep, and thus becomes oxidized.

This is the basis of our theory. It is necessary to prove the existence of such material, that it may form rapidly, and that it may produce lassitude and sleep. Berzelius already found, 1807, in dead muscles, kreatinic acid, and exhibited it, 1841, from the flesh of hunted animals. Dubois-Reymond, 1850, affirmed that the muscle in its quietude has a neutral reaction, with an alkaline tendency, but the active muscle exhibits an acid reaction. Liebig found that the meat of active wild animals contains more kreatin than that of tame ones. Helmholtz arrived at the same conclusion. Ranke enlarged these observations, and affirmed that kreatin and lactic acid are developed during the activity of the muscle, whereas the same at rest contains none. Claude Bernard already said, in 1850, that the active muscles use up more oxygen, and Ludwig confirmed it by quantitative experiments.

If, therefore, we acknowledge such a material of exhaustion in muscles, we may accept something similar for the lassitude of the nervous system, only we must distinguish between peripheral and central organs. I am not yet convinced whether the living contents of nerves can show an acid reaction. But it has been demonstrated in certain end-organs, by Dubois-Reymond, in the electrical organ of the shad (Wels), which gives a neutral reaction during rest, and an acid one during activity. An extension of such experiments is greatly to be desired, and especially in trepanned animals it ought to be established whether the reaction is less acid during sleep than during the waking state. It has been tried also in a different manner to found a psycho-chemistry, supposing that the secretion of phosphoric acid is increased, but the experiments failed in giving satisfactory results; and after all we gain nothing by such a change in the chemismus, inasmuch as the oxygen is used up by the brain, but the blood is venous just as well as during sleep. At any rate, it seems probable that also during mental activity certain products, material of lassitude, may form, similar to that from muscular labor. If, then, an exertion has been kept up for some time, such products of activity accumulate in such a manner, that immediately after its cessation a sudden discharge of oxygen may take place, to be followed at once by sleep. Let me remind you of the observations made in England. Captain Webb fell into a deep sleep immediately after having swam through the Channel and reached land; and it is well known that the same happens to runners after reaching their destination. In all such cases, the products of weariness have been formed so abundantly, that they extract with great rapidity the oxygen from the brain.

We must furthermore show, that we have to deal not only with such a weariness, but it must reach that degree that sleep follows. Here also Johann Ranke has demonstrated that by injecting such material, which forms in tired bodies, we may produce weariness in muscles not tired out, and after removal of the substance thus introduced, the muscle is able to work again. In our theory this lassitude is also caused by the accumulation of this material in the muscle, and it is a question, whether we may produce something similar on the intact organism. If we consider how very rapidly diffusible poisons, introduced in the stomach, produce their action on the brain, we may also suppose that such products of weariness, introduced into the stomach, may act very quickly on the brain. Numerous experiments prove the truth of this assertion. The manifestations are exactly the same as if the animals fell asleep of themselves. The reflex activity is perfectly preserved as in natural sleep, respiration is a little slower, temperature mostly somewhat diminished, the pulse slightly retarded. If we wake up the animals, they act exactly as if they were waked up from a natural sleep. Great care is necessary in these experiments; the light must be very mellow, not the least noise must be heard, and every stimulus must be kept off. But even where such extreme caution was not observed, it was proved that in many experiments with different animals the phenomena of sleep were clearly

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demonstrated. From animals, I extended these experiments to man and proved them on my own person. Although finding many variations, I always observed on myself great lassitude after the introduction of Sodium Lactate. In some provers no symptom of weariness followed, but the same has been observed in provings made with Chloral. I invited physicians and scientists to aid me in my experiments, and in the short time of a year many valuable contributions were received. Thus, especially the researches of Lothar Meyer, in Berlin, and Jerusalimsky, in Moscow, gave no results in some cases, but in the majority they could claim favorable results. The unfavorable issues do not abrogate my theory, inasmuch as they may be ascribed to an incorrect application of the preparations, to the individuality of the prover, or to an impure chemical. Such negative results ought only to urge us on to make still more provings, for there may be cases, where merely by a chemical alteration of the gray substance a nutritive disturbance may arise, preventing the normal production of the material of weariness, and when introducing the same material artificially, it may attract the oxygen necessary for the performance of normal mental processes, and thus give time for recuperation to the cell of the ganglion; in fact, I do not doubt that thus many psychopathic states might be ameliorated.

Progress is only possible by co-operation in pathology, chemistry, and physiology. So in the chemismus of the gray substance we meet with problems of the greatest interest. We do not know why we can not, according to our fancy, keep awake or fall asleep for days or weeks. We do not know by what the voluntary differs from the involuntary, but we know that during sleep the will is wanting, and that the dreamer soars high into the airy mist. We can not yet fully explain such manifestations of a conscious state, still less can we deny them. It is too true that just here the fancies of spiritualism hold high court, but even this must not discourage us, for finally fancy must give way to the experiments, superstition to common sense and to exact science, for in all this doubting and learning one thing is sure—"die menschliche Vernunft ist kein Traum," though everything else may be a dream, man's reasoning power is no dream.

COLD FEET.

COLD feet usually result from unequal circulation. People of active minds will be much relieved by wearing, at times, during their mental tasks, a linen or cotton skull-cap, frequently wrung out in cold water. The brain is cooled and the blood sent more naturally to the extremities. A brilliant New York minister was compelled to write his sermons with his feet in a hot bath. A prominent hydropathist advised the wet head-cap, which worked like a charm, and dispensed with the inconvenient tub of water.

The feet should be washed in tepid water every day or two; but do not put them into water so hot as to make them tender. In concluding the bath, dip them into quite cold water, which closes the pores naturally; and then wipe and rub them entirely dry and warm.

Wear broad, heavy-soled, capacious boots, with a loose insole. The foot appears smaller and more genteel in a boot quite large for it, than in one in which the compression compels the sides to overjut the sole and look tight over the instep or toes. Ladies should remember this fact, which is so well known to fashionable shoe-makers. A stylish dealer was daily complimented about his small feet and nicely-fitting boots; a compliment which his wife also shared among her lady friends. The secret was, they never pinched their feet. He wore No. 8, while his wife wore the unpopular size of fives. He could put on a six, or his wife a four, or perhaps a three. By wearing boots of the form of their feet of ample size, the boots remained in graceful shape. The gentleman's boots were nearly number nine in length; so made, to lend proportion and add comfort in walking.

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Change your boots often. In use, they absorb moisture from within and without, and by frequent change and drying will be much warmer. If you haven't two pairs, remove the insoles and dry them thoroughly with the boots each night. The patent covered-cork insole is a nice thing for those who can afford them, if they do not sweat the feet. But the smooth, stiff-leather insole is the best for all people; and one good pair will wear out several pairs of boots.

If your feet sweat easily, and then chill from the dampness, wear light cotton stockings with your wool socks over them. Just try this expedient and see how nice and warm your feet feel. Ladies who ride will find a large pair of socks, over shoe and all, a great comfort.

When your feet are cold, stop and warm them. No business at the desk, the counter, the bench; no domestic task or social or conventional circumstance is of so grave importance as to warm one's feet when they are cold. You can't afford the hazard to health incurred by indifference to the discomfort nature is giving you as a premonition of danger. Many a little disease has crept in through the toes which found its way to organic abode in lungs or heart or brain, and there developed until it cast a death-bolt.

Keep your feet dry. Self-acting rubbers —on and off with a kick—are the grandest life-preservers of the age. But if, by accident, you wet your feet, don't be foolish, and sit till death-damp steals to your vitals; or, still more foolish, be frightened into a fever. Exercise common sense, and remove the wet stockings. If chilly, take a warm foot-bath, closing, as usual, with a "cold dip," and wipe and rub entirely dry; and feel and be the better for the accident. If, in a judicious way, people would wet their feet oftener—clear up to their ears—it would be better for their health.

As you prize your health, do not lie in bed with cold feet. If your blood is at a low ebb, or you are suffering nervous debility incident upon too serious mental stress, and, as a consequence, you experience, upon retiring, a flood-tide of all your life-currents to a cerebral center, with a throb, throb, throb, like the martial music of a man-of-war's man in your brain, while your feet seem like two young icebergs floating in an open polar sea, just arouse yourself and *command*, rather than calmly submit to the situation. Indeed, people of delicate constitutions who are not consciously plethoric and robust, better always take the precaution of defensive preparations as they launch upon the sea of dreams. Abundant bedding and flannel blankets are not enough. A hot brick or jug of hot water afford instant relief, and are not bad friends with which to court Morpheus until morning; unless the brick forms an alliance with the frigid zone, or you incur a deluge by loosing the cork, or an earthquake by kicking the jug out of bed. A modern rubber bag is the proper thing. The stopple screws in and imprisons the aqua caloric with perfect safety, and becomes a boon companion to the most fastidious or nervous. A cold-blooded bachelor will find it a grateful, faithful attendant. Forlorn maidens may trust it for unfailing consolation and certain protection. The invalid and aged may rely upon it as the cosiest, kindest of bed-fellows, while even brides and Benedicts may safely stick to their hot-water bag to meet the emergency of any possible coldness between them.

H. C. BASCOM.

HOT WATER FOR BRUISES.—The New York *Medical Journal* (allopathic) reports this case: "The patient was engaged in a machine-shop, and while his hand was upon the anvil of a trip hammer, the hammer—weighing seven hundred pounds—fell. It so happened that a file was on the anvil, and in this way the force of the hammer was arrested about half an inch before it reached its bed. When the hand was examined it was found that the whole palm was a mass of pulp. The metacarpal bones were comminuted extensively, and there was apparently but small chance of saving the hand. It was, however, placed in hot water, and kept there for two or three weeks, and then taken out and dressed. In three months the patient was sufficiently well to leave the hospital, and now—nine months after the

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accident—he is able to move the fingers, and has quite a useful hand." Bruises and injuries do much better when treated with hot than with cold water. The temperature should be about one hundred and three degrees Fahrenheit. Another case is reported of compound fracture and dislocation of the ankle-joint, in which the proximal end of the first metatarsal bone protruded from the foot. The dislocation was reduced and the foot placed in hot water. At the end of a week it was taken out and dressed in the ordinary manner. The foot is now doing well, and promises a good result.

ZEB TO THE DOCTOR.

It's no use a comin' here, doctor, a feelin' my pulse and such,
Or givin' me more of yer medicin'—already I've taken too much;
And now I'm determined to stop it, my stomach I reckon needs rest;
At least I have got that idee, and fancy I'll give it the test.

It aint over pleasant, I tell ye, a watchin' yer body grow thin,
In spite of the doses of medicin' yer friends have kept pourin' in;
It aint no great joke for to lay here the whole of the summer and fall,
Yer eyes lookin' up at the cellin' or countin' the spots on the wall.
I've patiently waited your comin' on purpose to tell ye my mind,
And ax you a few simple questions respectin' the rest o' mankind;
You know they are sorely afflicted with rheumatics, ague, and gout,
Which nat'rally 'counts for the doctor's so constantly running about.

The deacon's been here a few minutes; he ended his visit wi' prayer;
And said whom the Lord had afflicted he likewise had power to spare,
Then quoted a passage o' Scriptur', the words have slipped out o' my mind;
'Twas summat about sore affliction bein' useful to chasten mankind.
The parson once gave from his pulpit the very same words as his text,
He said that affliction in this world prepared us for life in the next.
I thought a great deal on the subject, it puzzled me more than enough
To think that the Lord God Almighty should treat a poor fellow so rough.

And since I've been layin' here, doctor, in solitude, silent and still,
I've thought a great deal of my Maker, an' tried to unravel His will;
But, think as I would, the same idee has ever stuck close to my brain,
That if He wills aught in the matter, He wills we should suffer no pain.

And if in the spring of my lifetime I'd studied His laws as I should,
I wouldn't be lyin' here, doctor, my keel away down i' the mud.
I once had a strong constitution, as tough as a fellow's could be;
But year after year I abused it, and this is the fruit d'you see.

I've taken a lot of yer medicin', the brethren have offered their prayers,
And yet I'm as far off as ever from bearin' my body down-stairs;
Don't think for a moment I blame you, I reckon you've done all you could,
But really, I don't believe, doctor, you've done me an atom o' good.

I'm longin' to feel the warm sunshine and drink in the fresh mornin' breeze,
Which makes all the maple leaves rustle while bendin' the boughs of the trees;
I want a good draught of fresh water, I've not had a drop for so long,
Exceptin' to wash down your medicin' which tasted so bitter and strong.

In fact I'm determined to have 'em—both sunshine, and water, and air,
For while I've been lyin' here, doctor, I've somehow gone short of my share;
But call in a month at the farthest, and then for yourself you can see,
If givin' up medicin' for sunshine aint provin' a blessing to me.

. . . . . .

Well doctor, I'm glad that you've come, I've been waitin' and watchin' all day,
An' thinkin' that maybe you'd call if you chanced to be passin' this way.
You say, "that you're right glad to see me a lookin' so smart and so spry."
I reckon you're kind o' surprised by the look that I see in your eye.

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The fact o' the matter is, doctor, I've neither drank medicin' or stout;
And now by the aid of my stick I am able to potter about.
The book that old Snell came and read me has taught me there's little to fear
For those who determine through life from all mixtures and compounds to steer.
And as for the Lord sendin' sickness, I haven't yet puzzled it out,
For over my mind there is hangin' a monstrous shadow of doubt;
But one thing I've fixed on for sartin, and with me no doubt you'll agree,
That health is the best, taken care of, no matter how hardy you be? T. B. THOMPSON.

THE EVE OF A NEW DEPARTURE?

IN the February number of the Cincinnati *Medical News*, the leading organ of the old school of practice in the West, a discussion of certain views on the treatment of "Fever" was lately published. The writer, Dr. Kibbee, takes ground quite in harmony with the opinions held by the SCIENCE OF HEALTH department, and thus indicates the tendency of advanced thinkers professionally connected with the allopathic guild toward anti-drug methods of treatment. We give the greater part of the article:

When the vital force is stimulated, or goaded by inimical substances, such as those infusorial seed poisons, which, according to their inherent differences, develop, under the fermenting condition of excessive vital heat, into scarlatina, variola, or other specific organisms, which, in the language of Professor Tyndall, "prey upon the blood and tissues," the heart beats with greatly accelerated force and frequency, and the lungs respire rapidly, in order to more quickly carry the blood to the depurating organs, that the impurities and poisons may be speedily cast out of the system; and the heat that results from that exalted action is *above* the normal standard, and excessive, or abnormal. As the same vital force produces the normal amount of heat, and the excess of it, the difference being only in the rapidity of vital motion, we can not fail to see that all we are required to do, at least all that Nature *demands* we should do, is to *remove the excess of heat*, and leave the exalted vital action to cast out the offending cause as quickly as it can.

The moderating of this excessive heat is provided for in the bountiful supply of cool water wherever organic life can exist, which is indicated as the sure remedy for excessive heat in all sentient beings, by their intense desire for it when overheated from any cause.

We conclude, then, that the fever process, instead of being a unity, designed to "burn up the tissues" that have, in some mysterious way, been decomposed or changed by some inimical cause or power, is a duality, composed of exalted vital action and the consequent excessive heat. We conclude, too, that, as the waste matters, the worn-out tissues and unassimilable ingesta, are regularly cast out through the depurating organs in health, by the vital force under the excitation of congenial substances and conditions, so are the poisons, together with the débris of the system, cast out through the same avenues of purification; and their exit is hastened by the exalted vital action set up for that purpose, the same as a horse employs a greater amount of force to move a heavy load than is requisite to draw a light one. Is it not clear, then, that fever is *not* a unit, friend or enemy, to be dealt with *as such*, but a duality, composed of exalted vital action and excessive heat, the *exalted action* being nature's *first* as well as last supreme effort to save life, or remove offending causes; and the excessive heat, being the *result* of the exalted vital action, serving simply to indicate with unerring certainty its own remedy by producing an almost insatiable desire for cool water to drink and to bathe in. In this physiological light, is it not patent that the errors which we were *all* taught by our Medical School Masters, and embodied in our practice of the past, lay in the fact that there was no distinction made between exalted vital action, a friend to life, because the life principle *itself*, working under difficulties, and the excessive vital heat, a most deadly enemy, because producing *all* the morbific changes that ever

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occur in a sentient organism while under the influence of fever, or exalted vital action and excessive vital heat.

Can Dr. McElroy, or can any one of us, adduce the slightest evidence that the presence of malarial or infectious seed poisons causes the least change in blood or tissue until after vital resistance is set up against it, and the temperature of the whole system, at least that of the great vital organs, is consequently raised above the normal standard?

In all traumatic diseases or vital disturbances, there is no change of any living tissue until after inflammation, or exalted vital action and excessive heat. How many instances could our army surgeons cite of healing by first intention of fearful wounds, where the heat of the part was kept at the normal standard by the persistent and thorough application of cool water. The virtues of cool water in the treatment of lesions occasioned by violence were found to be such that the water dressing is now in universal use in all the army hospitals of the civilized world; practically recognizing the fact that excessive heat produces all the morbid changes in fully vitalized tissue. It used to be thought by the teachers of surgery, that increased vital action and elevated heat were necessary for the healing of wounds; but it is now seen, by the use of cool water, that the nearer the part can be kept at the normal standard of heat, the quicker and better will the repairs be made.

As in local traumatic diseases, so in general infectious or malarious; the *excessive heat* is the condition which enables all seed poisons, whether vitalized or simply inimical, to develop or reproduce themselves in the impurities of the blood; those waste matters which, as every physiologist knows, do no harm while the temperature is normal, and which are being constantly cast out through the emunctories.

With these physiological facts before us, it needs but little more than to make the axiomatic statement that normal heat, and fever heat, are one and the same thing, differing only in degree, as they are produced by the same cause, the vital force. As already observed, when the conditions are all favorable to health, the heart beats regularly, and the lungs respire normally, and the vital heat which results from that normal vital action is normal, 98°. When the conditions are unfavorable, the vital force increases the action of the heart and lungs in order to remove through the depurating organs whatever it is that offends, and the heat which results from that exalted action is excessive, but provided for by the instinctive desire for cool water. It is well known that the exalted vital action necessary to the performance of a hard day's work, if the excess of heat that results from that exalted action be taken away as fast as it is evolved, as it is by the atmosphere in a cold winter day, no harm whatever results to the organism, except the drain on the original stock of vitality. The heart may beat and the lungs respire for hours with double their normal action, and the consequent excess of heat be developed with great rapidity, if it is removed by cool water, as in swimming, and the swimmer will scarcely feel tired from the unusual exertion. The plain reason is, that the functions of life are perfectly performed as long as the bodily heat remains at 98°.

Considering it proved that fever is a duality, exalted vital action and excessive vital heat, let us notice, for a moment, the *causes* of this disturbed vital action and excess of heat. Dr. McElroy refers to the multitude of names for fever, all based on the specific differences in the offending causes, which, owing to those differences, induce varied morbid phenomena, and reduces them all into two classes, those originating from external causes, and those from internal. It is really a matter of no consequence as to whence comes the cause of offense, whether from within or from without; the vital resistance is the same, and the heat is the same, differing only in degree; but it is of the highest importance that we do not confound the stimulating or goading *causes* of the fever, with the fever itself. The history of therapeutic medicine is little more than a record of the mistakes in practice, caused by oversight of the physiological fact that the exalted vital action is in the interest of life, or, in other words, is nature's method

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of protecting herself against whatever is offensive to her, and of the fact that the excess of heat resulting from that exalted action, needs only to be removed with tepid or cool water, according to nature's instinctive demands, to secure absolute safety *in all cases if fever*, no matter whether the causes proceed from external or internal sources.

Therapeutics, as taught twenty-five or thirty years ago, led us to think the causes of vital disturbance were something to be destroyed or combatted with medicine; but somehow we forgot our lessons in physiology, for *they* instructed us that all curative power resides *in the system*, and is the vital force itself; and that its action, whether produced by normal means, as proper food, pure air, good water, etc.; or excited by abnormal stimulants, as scarlatina or variola poison; or lowered to scarce a perceptible throb, as in congestive chill, is always its *best effort* in the interest of the individualized structure. We can not fail, then, to see that every manifestation of vitality is occasioned by the vital force itself, and whether it is excited by health-producing substances, or stimulated by such as are inimical, nothing should be done to lessen its power, as is the case when we administer drugs with the view to destroying the poisons since they only prevent the vital force from manifesting the kind of disturbance which legitimately proceeds from the disturbing cause.

These disturbing causes have no power in themselves to cause symptoms; they only have their peculiar properties, varying from each other according to inherent differences; and the excessive vital heat, if not removed, according to the demands of nature, through the instinctive desire for water, brings out all the different morbid phenomena through its power as a fermenting condition; the seed poisons serving as a ferment, and the impurities in the blood as the sustaining medium or malt, the disturbed vital force being the fire, the stomach preparing the fuel, and the circulatory and respiratory apparatus being the engine. What is the condition of things in a fever that is especially dangerous to life? Nothing, as we have seen, but the fact that too much *heat* is evolved. The heat, then, is all we have to doctor. The self-regulating engine will take care of the rest. But how shall we bring the heat down to its proper degree? By lessening the fire? By meddling with the engine? That would not do, for the fire must burn hot, and the engine run rapidly, not to burn up the impurities and poisons, but to *expel* them through the depurating organs in the quickest time possible.

The question of temperature in fever is now receiving the investigating thought of representative medical men throughout Europe and America. Brand, Neftel, Jürgensen, Liebermiester, Ziemssen, Lindwurn, Bamberger, Winternitz, Gignoux, and others in Europe, have made astonishing cures of typhoid and other fevers of high temperature by the persistent use of cool water; and some of our own distinguished teachers and practitioners, Flint, Thomas, and others, have added their experience and testimony to the fact, that when the excessive heat of the fever patient is abstracted with cool water, as fast as it rises, the morbid changes incident to any and all high-graded fevers do not occur at all. These facts seem very like the fulfillment of the hope so ardently expressed by Professor Tyndall in his recent lecture, at Glasgow, Scotland, on "Fermentation and its Bearings on the Phenomena of Disease."

After discussing the subject of fermentation in a masterly manner, showing conclusively that all epidemic diseases are caused by vitalized parasitic germs taken into the blood by inhalation, he quotes Dr. William Budd, in his celebrated work on typhoid fever, in which he says he has often seen, in the day-laborer's narrow chamber, the father lying dead in the coffin, the mother in the sick bed, in muttering delirium, and nothing to relieve the desolation of the children but the devotion of some poor neighbor, who, in too many cases, paid the penalty of her kindness in becoming herself the victim of the same disorder, and proceeds to say, "From the vantage ground already won, I look forward with confident hope to the triumph of medical art over scenes of misery like that here described." Those who will consider the recent experiences

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with water as an antipyretic, in connection with the physiological facts here set in order, can not fail, it seems to me, to see that Professor Tyndall's hope in medical triumph over the death scenes he describes, and with which we are all too familiar, is already accomplished in the discovery, that keeping the blood cool to the normal standard of heat is an infallible cure for fever of every name. So that if Professor Tyndall and his co-scientists have found the remote *causes* of infectious fevers to be parasitic living organisms, their medical brethren have found the *remedy* to be cool water, so applied as to keep the bodily heat at the normal standard, a point plainly inimical to parasitic development and reproduction.

From this arrangement of well known physiological facts, we conclude—

1st. That the vital force, or life principle, is the prime cause of all motion in the human organism, from the first cell formation until the last throb of the heart.

2d. That heat at about 98° is the first condition of life in the human body.

3d. That health is undisturbed vital action.

4th. That disease is disturbed vital action.

5th. That the causes of health are the presence and influence of those substances and conditions which are congenial.

6th. That the causes of disease or disturbed vital action are those substances and conditions that are inimical or unfavorable to the normal manifestations of vitality in the organism.

7th. That the presence or influence of hygienic substances and conditions excites the heart to beat and the lungs to respire with normal force and frequency; and that the vital heat, resulting from that normal vital action, is 98°, and normal.

8th. That the presence or influence of any substance or condition that is inimical to life, stimulates the heart to beat and the lungs to respire with increased force and frequency; and that the exalted action is for the purpose of expelling the inimical substance, together with the refuse of the system, through the depurating organs.

9th. That exalted vital action, which hastens the motion of the blood through the circulatory and respiratory systems, by augmented friction and increased oxygenation of the blood, raises the heat above that degree which is congenial to health, provided it is not removed by cool water or by cold air as fast as it is evolved.

10th. That when the excess of heat above 98° is removed as fast as it rises, no more injury results to the organism from that exaltation of the vital action which is stimulated by yellow fever or scarlatina poison, than from that caused by the mental excitement which produces excessive beating of the heart and respiration of the lungs, while skating rapidly in the cold air of winter, or while swimming in cool water with competitors for a prize.

11th. That exalted vital action causes excessive heat, and the two together constitute *fever*.

12th. That exalted vital action, even if the resultant excess of heat be removed as fast as it rises, will exhaust the available stock of vitality, and death of the organism be the result, if a man use it all up in his muscles, or otherwise through mental control; or if it be exhausted in resistance to something deadly inimical, under the self-preserving instinct of organic life.

13th. That every abnormal change of fluid or solid, in the composition of the human organism, that occurs under vital control, as in all fevers, is under the influence of *excessive heat* as a fermenting condition; and without that condition of excessive heat, there is *no* abnormal change in blood or tissue, whether the organism is working rapidly to supply vital force to the muscles, or to expel inimical substances.

14th. That none of the causes of exalted vital action and excessive heat, or fever, which are taken into the blood through the lungs, the seed poisons in all infectious and malarial fevers, have virulence enough in them to produce death of the organism by exhausting the vital force in its resistance to them, *if the excessive heat that is evolved by that resistance be removed with cool water as fast as it rises.*

IT is no great matter to associate with the good and gentle; for this is naturally pleasing to all, and everyone willingly en-

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joyeth peace and loveth those best that agree with him. But to be able to live peaceably with hard and perverse persons or with the disorderly, or such as go contrary to us, is a great grace and a most commendable and manly thing.

THE SCIENCE OF HEALTH.

VIEWED from whatever standpoint, the laws of health are of the utmost importance. If one's self is worth more than the whole world, then to preserve one's self is the first duty and the highest privilege. Gain all else—could it be done—and yet lose health, and all is lost. While nothing can compensate for such a loss, nothing can, indeed, be held in any enjoyable sense under it. The more we have beyond our ability to enjoy it, the more does it become the source of pain rather than of pleasure. The rich man torn from all his treasures has to endure regret more insufferable than the poor. This may in part, if not in whole, account for the torments of Dives of Gospel fame. The misuse, not to say abuse, of his opportunities and possessions now lost forever, formed the bitterest ingredient in his cup of woe. Hence his efforts, too late for relief, and to admonish others to avoid his folly.

The same principle obtains in the grave matter of health, and the same solemn example should be heeded. As Solomon says, "Buy the truth, and sell it not," so may we say of health. Ignore, as multitudes do, right living, and what is left worth living for? Disease, pains, gloom, low spirits, forebodings, and as the apostle expresses it, "a fearful looking for of fiery indignation," gradually and constantly sink the sufferer into a premature grave. Better, far better for such an one that he had never been born.

Thus, to live on the "ragged edge of despair" is even more than useless. There is no decree, no fate in the sad case. It is brought upon ourselves by *hard work*. But for the plea of ignorance—little short of the modern desperate defense of insanity—the health-destruction were of all other kinds the most inexcusable. Well did Moses of old promulgate his law against the sin of ignorance. It is the filthy fountain of all crime and all misery. Rejecting or neglecting the light, we perish in darkness. No declaration in the great Book can be of more import than that God saw the light to be good. Literally, mentally, and spiritually, for soul and for body, for time and for eternity, light is good—exceedingly good. The converse is true as to darkness. One that does not learn — that will not learn, is worse than hopeless. Like the sneaking thief, he prefers darkness because his deeds are evil.

Then the science of health and its practical advocates are doing a great and good work. Indeed, its success is the hope—the only hope of our world. Let it go on in the even tenor of its way, and we are saved; let it be hindered, or still worse, be stopped and we are lost. One grand fact should cheer us: "Truth is mighty and will prevail;" which, with the other maxim, "Labor conquers all things," insure success.

W. PERKINS, M.D.

A REAL VEGETARIAN.

SEVERAL of our exchanges have published the following paragraph, as if it set forth a very remarkable phenomenon in human nature:

"One-half mile south of Holmesdorf, Pa., lives an old farmer, by the name of Abraham Blatt, who is about sixty years of age, is healthy, robust, and as strong as a horse, who has never in his lifetime tasted the least bit of meat of any kind. He says he never tasted beef, pork, mutton, or veal, no kind of poultry, no kind of fish, no kind of game, in fact, nothing pertaining to meat. He has such an abhorrence of meat that when they kill a cow or hog on his premises, he generally leaves home and goes about other

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business. He is the father of a large family, all healthy children. Among the lot is also one boy, who, like his father, eats no meat of any kind. In reply to the questions put to the father, how he could work so hard without eating any meat, he says he believes he is much healthier than if he ate meat. He uses very little butter."

We see nothing more wonderful in Mr. Blatt's disposition than a near approach to a natural life, so far as diet is concerned, and his robust health is the simple result of it. There are thousands of people who are just as much entitled to the notice of the press as Mr. Blatt. Among them are the Shakers, whose organ thus comments on the paragraph we have quoted:

"The popular error that flesh meat creates more muscular strength than do grains, fruit or vegetables, was equaled by the once popular belief that to the farmers and hard-working laborers alcoholic drink was a positive necessity.

"We are apt to forget to reflect. The horse after his kind; the ox and buffalo, the camel and dromedary, the elephant and mastodon, were and are graminivorous. Do they lack muscle, as compared with the carnivora? Is the fact that no animal living habitually upon other animals will ever work, presumptive evidence that man, who performs so much physical labor, does not belong to the carnivora, and that he will progress beyond it?"

ASPARAGUS, SPINACH, AND OTHER GREENS.

Asparagus, Healthful, History, Culture, Use—Spinach—Dandelions—Milkweed—Poke—Hoosung—Cardoons.

Recipes.—Asparagus Dressing, Stewing, Pease, Toast, Stew—Spinach—Dandelions—Mustard—Dressing for Greens—Milkweed.

THE long winter of our discontent is at last passing away. The warm shining of the sun has again called out the leaves of various kinds, which come as the heralds of flower and fruit, each in its time. We who have been so long confined to dry forage are fain to follow the example of the lower orders of animals and find out what of green the field or garden may produce for us. In this, however, we speak not for ourselves so much as for others. We who have such grand varieties of fruits, fresh, canned, and dried, and of seeds and grains prepared by the skill of the miller in many forms, besides the roots, which with careful preservation in cellar or garden still yield their freshness, we have no cause to complain. Moreover, we have no penalties to pay for overeating or for stimulation of any unwholesome kind. Through our gladsome, workful, vigorous winter we have retained an appetite so normal, and a taste so keen, that we enjoy our juicy fruits and rich grains and wholesome vegetables with a zest that does not feel the need of additional forage of any kind. Having also lived in pure air, with abundant exercise, we have felt no symptoms of the

SPRING SICKNESS

of which so many complain. We have no idea that our blood wants any special cleansing with "roots and herbs." We have good lungs to do that work for us with every breath, and a good liver to do its part after every meal, and if we had not we should not send down any soap-suds and scrubbing-brush, in the shape of syrups and blood-purifiers. By the way, I am constantly, of late, running across some very cheering proofs that the ideas of the public on such topics are improving rapidly. Only a few days since I heard an old-school physician tell a public audience, that after a poison had got into the blood, there was no such thing as putting a medicine into the blood to counteract its effects. It must work itself out in some way, and it was our business to aid the system in this operation and patiently wait the result. If all our old-school doctors would only lay on in that style, it would not take long to puff out of sight the old-time barbarism of taking medicines in the spring to "physic the blood."

And when the people come to understand and practice the theory of right living, we will see them, like all the rest of nature, beaming with gladness to greet the spring.

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instead of feeling wilted and "all gone" when its balmy breath fans their faces. We love the spring so well that we can calmly wait her coming, without being obliged to wish that she would hasten along with something for us to eat, or feeling obliged to bolster ourselves up with pickles and raw onions until she produces her dainties. Nevertheless, we like the dainties she has been hiding for us in her bosom through all the long winter, and we shall take them thankfully and make the most of them. We shall doubtless find many to agree with us when we hand up our plate for some

ASPARAGUS,

as our first choice. And what is asparagus? Leaves, just leaves, and in the bud at that. Nevertheless they are full of the life and vigor of spring and contain the vitality of a large development. There is a great difference in plants in this respect. It would be easy to say that the tiny oaklet holds in itself a larger promise than the asparagus bud, and in one sense it would be true; but we would be obliged to wait longer for its development. It must make roots as well as tops; while the asparagus has the roots of several years' growth already to work for it, and push forward a rapid development. Hence, when the large buds find their way to the surface they are full of nutrition, and, moreover, being in a succulent and eatable condition, they make a very good and nutritious dish, compared with many other greens. We doubt about their being so valuable as the grains, as we do not consider them anything like so nutritious. They rather more resemble the majority of fruits in the amount of nutrition, as well as in their acids and fresh juices.

One of our best authorities says that "it is one of the most productive, economical, and

HEALTHFUL

of all garden vegetables." We ourselves should feel a little disposed to make some small exceptions to this. It is well known to contain a substance called "asparagine," which leaves the system by way of the kidneys, without digestion, emitting a very strong and unmistakable odor. It may not be very hurtful; we are not sure that it is; but it has one peculiarity in common with all hurtful things, it can not be used by the system, but requires a special exertion of vital force for its removal. Any substance that is perfectly digested does not emit any odor by which it can be recognized. This is a proposition worth remembering, and to which we will again refer when we examine the odoriferous onion, as we propose to do soon.

EARLY HISTORY.

The asparagus is not a vegetable of "recent invention" by any means. Indeed, if we may believe the ancients, they carried its perfection to a far greater extent than we are now able to do. Athenæus tells us of some travelers who saw in Libya asparagus twelve feet high, and again some on the mountains which was thirty feet in height. They do not specify whether this was the growth of the mature plant or of the buds when cut for table use, and in fact we do not think it makes much difference. We doubt if such reports would stir up our cultivators to emulation. It is perhaps a little more to the point to say that the Romans, who took great pains with its cultivation, seriously report sprouts of three pounds weight when cut for table use. This is about six times as large as the largest that we are able to raise now. Grayson's Giant has been made to weigh forty-three pounds to the hundred sprouts, and this is the largest that has ever been raised in England. The Romans cooked it very much as we do, and it was a favorite phrase with Augustus, when giving orders, "Let that be done quicker than you would cook asparagus." The Roman cooks also dried and kept it for use when out of season. They ascribe its origin to Asia, but it is either a native of the sea coasts of France and England or has become so well naturalized there that it is generally considered a native of those countries. It is a marine plant, and salt is a favorite fertilizer.

CULTURE.

Asparagus is a plant of slow growth and of long life. It is usually raised from the seed, and until that mode of propagation is changed, much improvement in the varieties need not be expected. The plants are

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raised in a seed-bed, and when they are in their second year, they are placed in a bed which has been made mellow and highly enriched to a great depth, adding two quarts of salt to the square rod, and the roots are placed in rows and covered with five inches of soil. In the fall the tops are to be cut and burned, and an inch or two more of soil and manure added. Every fall it should have a top-dressing of manure and salt. The second season the bed is to be treated in very much the same manner, keeping it free from weeds, cutting and burning the tops, and adding another dressing of manure. The next year it can be cut for table use. It is true this is sometimes done the previous year, but it impairs the vigor of the plants; so does too frequent or too long cutting. From the 10th to the 15th of June in the Middle States, and from the 15th to the 25th in the Eastern States and Canada is as late as it is allowable to cut it. Some portion should be exempted from cutting even earlier than this, so that it can make large buds for early spring use the subsequent year.

This is a matter which ladies who are in the habit of going into their own gardens should study carefully. Some who have not done so, and I fear their number is not small, have the impression that after a plant has done blossoming its leaves may as well be cut away as not. I have seen peonias and dicentras thus cut away, and asparagus even before it had blossomed, and many other plants which had passed their season of use, whatever that might be. They did not seem to understand that the leaves were the lungs of the plants, and through them only could the plant make roots and get a stock of vitality for its next year's growth. Some things, like Holland bulbs, get this sooner than others, but they grow and make roots in the winter, while other plants rest, and we can not make other plants follow them in this respect. We need to study the laws of plant-growth in general, and then learn the exceptions and treat them accordingly. And now the approach of another spring affords a favorable season for doing this, and we hope that misses who have school opportunities of doing so, and ladies who can pursue a course of study by themselves, will take up botany, not because it is "the thing to do," but from real love of its subjects and a desire to learn all they can about them. They will find it more fascinating than society, more useful than fancy needle-work, and more healthful than dancing.

The green part of asparagus is the only part that is eatable. The buds should be close and firm, and it should be used as soon as possible after it is cut. Reject it utterly if it has begun to decay or wilt. Marketmen have a fashion of keeping it a day or two in some damp place, but it degenerates in quality almost as rapidly as green pease or corn.

SPINACH.

Spinach is said to be of Asiatic origin. This is one of the first vegetables to spring up to notice in our gardens, though indeed, if it be rightly managed, and the winter not too severe, it can be had at any season. It is not uncommon now to see it in the city markets throughout the winter. It is a harmless plant, good for variety; its greatest fault being that it has hardly sufficient taste to stand on its own merits, and is continually appealing to the castor to help it along. The hygienist has so many better things in his list that he very often and very sensibly discards this entirely. Where it is used it can be much improved by cooking it with some such thing as French sorrel, or orach, which is a semi-acid variety of spinach. These are all of them easily cultivated. Spinach, when grown at all, should have the advantage of rich soil, to give tenderness and succulence to the leaves. The seeds should be sown in drills; and if a succession is wanted, a few more seeds should be sown every two weeks from April to August. The kind cultivated for winter use is a different variety from that best adapted to summer use. It may be sown in the latter part of August, thinned to five inches apart, and, if the weather is favorable, it ought to be in good condition to cover up by the time the ground freezes; then, if a strip of timber be laid between the rows, and clean straw covered over the whole, it can be gathered at any time when the weather will

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permit. The usual method of gathering is to cut off the roots just below the leaves, which saves much trouble in washing it, as well as time in looking it over.

DANDELIONS

are not a little used in the country, where they spring up spontaneously, and if this be in cultivated places, they do very well; but the tough diminutive bits that grow in the grass are hardly worth the labor of gathering. It is not a bad idea, if people really wish to eat such things, to bestow a little care on their culture, either by devoting space to them, as to any other vegetable (which developes large plants), or by giving some culture to those stray seedlings that make their appearance in the fertile parts of the garden from which the regular crops have already been removed. Such treatment of them in the fall will greatly improve them and produce finer as well as earlier development in the spring. For many families this would produce all the dandelions for which they would care. In gathering them there is a great saving of time in cutting the root below the leaves. They have of late become a market vegetable. Many people reconcile themselves to the bitterness, which is almost unendurable without some dressing, by thinking it is good for the blood. We can hardly account in any other way for the common increasing use of dandelions. Its botanical name is derived from a Greek word, signifying to disturb or disorder, alluding to its internal effects.

MILKWEED.

This is so named from its milky juice. The shoots make their appearance in May or June, and are sometimes recommended as a passable substitute for asparagus. I do not know how they are a substitute; I do not see much resemblance, either in appearance or taste. If it be meant that they are to be eaten in the place of spinach or asparagus, because you can no longer get the latter article, as much might be said with reference to many other things. I dislike the idea of substitutes in cookery. I do not see why one thing has not just as good a right to stand on its own merits as any other thing. If it is good in itself, use it. If it be called after any other thing, it is cheated out of its dues, and the eater, of course, feels cheated. He is professedly eating it because it tastes like some other thing, which, of course, he prefers. The kind of milkweed used is the *Asclepias Cornuti*, a very common plant in the Middle and many other States. It blossoms in July, has large ovate downy leaves, and an almost globular cluster of pale pinkish flowers, of a rather disagreeable sweet odor. It should be gathered when from five to eight inches high, though when still larger the stems may be used if the larger leaves are stripped off. It does not require so much time in its preparation as many other sorts of "greens." If the young shoots that come up in good tilled soil can be left until they are large enough to use, a few messes of greens can be secured from them at a very small expense.

POKE

is another of the plants which has the honor to be recommended as a substitute for asparagus. The young shoots and stems may be cooked, while yet tender, in the same manner as asparagus. The plant is not an uncommon one in many parts of the country. Somewhere I have seen directions for its cultivation; but as it grows very thriftily, and of its own accord appropriates rich soil, there is little need for its cultivation; and if there are localities where it is not to be found, it is still rather doubtful whether it would pay for cultivation, as it is a plant of a very large growth, and by no means so aristocratic in its appearance as asparagus, nor would its foliage answer anything like so well for decorative purposes. Still, it is worth while to know what plants are capable of being pressed into service in case of emergency.

HOOSUNG is not to be found as a wild weed in this country. It is an importation from the country of the Celestials. It is cultivated after the same fashion as lettuce, and is fit for use early in June. The inside of the thick succulent stem is boiled and dressed with white sauce, or it may be cut into dice and made an ingredient in soups.

CARDOONS are also used in soup, as well as cooked by themselves. They have a great abundance of albumen, which thickens

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the soup, or serves as a dressing to them when cooked by themselves. They are grown and blanched in a similar manner to celery. Cultivated in the gardens of the nobility of the Old World, and talked about in most of their cook-books as one of the delicate dishes, I suppose they would disdain, or rather the gardeners would disdain for them, the plebeian associations in which we have placed them here; but even "the king himself is served by the field."

RECIPES.

DRESSING ASPARAGUS.—Cut off as much of the white end of the sprouts as is necessary to enable them to be conveniently handled; wash lightly. The English carefully scrape each separate stem, but what is to be gained by it they do not say.

STEWING ASPARAGUS.—Tie the dressed asparagus in bundles of half a dozen sprouts each, and drop them into boiling water sufficient to cover them; boil gently for eighteen or twenty minutes, or until the green portion is quite tender—though it should not fall to pieces when handled. Cut and remove the strings and carefully place them lengthwise on a warm platter, and tilt it slightly for a few minutes to drain. Serve by placing a few on each plate, and eat the green and soft portions. It is considered quite the thing to take the sprout in the fingers by its hard, white portion and lift it to the mouth to be eaten and to have its juice extracted. This has a fresh, pleasant taste, and though we can not recommend the practice on account of its delicacy of appearance, yet if any one wishes to take advantage of it to get a pleasant mouthful, society manners will allow him to do so.

ASPARAGUS PEASE.—Cut off the green portions of the sprouts, or as much of them as are tender, and cook them in as little water as will answer; then skim them out and cover them with a sauce made of milk, thickened with a little sifted Graham flour, or with oatmeal milk, made by boiling coarse oatmeal gently a long time in six parts water, and straining it carefully through a fine wire sieve.

ASPARAGUS TOAST.—Split some fresh and tender gems, toast them slightly, dip them quickly into the water in which the asparagus has been boiled, lay them on a hot platter, and dish the asparagus upon them. Or take stale gems, split and simmer gently in milk until quite soft, lay them on the platter and dish the asparagus upon them. The asparagus for this purpose may be prepared in any of the ways above mentioned.

ASPARAGUS STEW.—About one part asparagus, cut into short pieces, may be added to two parts pared potatoes, a few minutes after the latter begin to boil; let them stew gently with but a little water, which should do nearly out, and just before they are done add oatmeal milk barely sufficient to cover them; cook all together for five minutes, being careful not to stir it into a mush. Asparagus may also be stewed with beans, and with beans and potatoes, being careful to give each only the cooking which it requires.

SPINACH.—Wash spinach carefully in an abundance of water; pick off all decayed leaves, and rinse; put into a pot with no water except what clings to it from the rinsing; cover close and cook gently till tender, which will require from twenty to thirty minutes, according to its succulence; then take up into a colander, place it over the pot to drain, covering it to keep it warm. If you have a perforated mould, it is very convenient to press it into that, and when drained turn it out upon a platter to serve, being careful to keep it warm.

DANDELIONS, MUSTARD, ETC.—Pick over, wash, and rinse thoroughly; put into an abundance of boiling water and boil rapidly until they are done, which you may know by mashing them between the fingers. Take up, drain, and serve the same as spinach.

DRESSING FOR GREENS.—If convenient, cook sorrel with the greens, enough to give them an agreeable tartness; or if rhubarb is abundant, that may be used, cooked and drained with them Otherwise, cook a small proportion of rhubarb in a saucepan, and when the greens are drained put them in and heat, stirring them thoroughly; drain again and serve warm. If lemon juice is used, it is much better to cook it in after the same fashion. A little sprinkling of sugar will remove the harshness of either of these sours. Tart apple-sauce may be used in a similar manner, or served with them. The hard-boiled eggs, with which they are so often decorated, are better to look at than to eat; but the mustard dressing is neither handsome, toothsome, nor wholesome.

MILKWEED.—Cut the stems when about five or six inches high, trimming off such leaves as appear to be tough; boil them in a medium quantity of water, take up and drain, very much the same as asparagus. The time required will be twenty minutes, if they are very tender. The succulent stems are the most delicate part, and may be cut in bits and stewed like asparagus pease. Poke shoots may be cooked in a similar manner.

JULIA COLMAN.

"SIFTED PEASE."—This a variety of canned pea, which brings a very high price. It is prepared by sifting the first picking of green pease for the season, and sifting out the youngest and

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most delicate, which are then duly canned. It is really a very nice article, but, of course, a very scarce one, and one also which is very largely counterfeited. Almost any one that raises good "Champions," can have an article equally good by selecting half-grown pease and cooking them about two hours, or until they are nearly ready to fall to pieces. All green pease would be greatly improved by cooking much longer than is the common custom. An hour and a half or two hours will make an otherwise ordinary pea delicious, and if it is in its prime, and cooked as soon as gathered and shelled, it is far more desirable than asparagus.

Dr. Heald, of Wilmington, Del., has selected "McLean's Little Gem" and "Laxton's Alpha" as the two best early peas in his latitude. We commend his selections. For a later pea the "Champion" has no rival yet, so far as we are aware. For the latest, we commend the "Blue Imperial" to a trial. Green pease should be planted in succession, to last until the advent of sweet-corn, if the weather favors their growth, and then a few more late in the fall.

RECORD OF SCIENTIFIC DISCOVERY.

The Depths of the Sea.—According to the late explorations of the English, German, and United States Governments, it has been proved that the average ocean depths in the southern hemisphere are less than those of the northern hemisphere. The greater range of water surface in the southern hemisphere is, therefore, in a measure, compensated for by its shallowness. It has been a question how, considering the great apparent preponderance of land in the northern hemisphere, the center of gravity of the earth could coincide with its actual center, if such be the fact. These contours of the ocean-bed point to a possible solution. The greatest recorded depth in the southern ocean is 17,000 feet, while in the northern oceans 27,000 and 23,500 were found respectively in the Pacific and Atlantic. A published report of Captain Evans' remarks before the British Association, says:

"The general surface of the sea-bed presents in general to the eye, when graphically rendered on charts by contour lines of equal soundings, extensive plateaux varied with the gentlest of undulations. There is one great feature common to all oceans, and which may have some significance in the consideration of ocean circulation, and as affecting the genesis and translation of the great tidal wave and other tidal phenomena, of which we know so little—namely, that the fringe of the seaboard of the great continents and islands, from the depth of a few hundred feet below the sea-level, is, as a rule, abruptly precipitous to depths of 10,000 and 12,000 feet. This grand escarpment is typically illustrated at the entrance of the British Channel, where the distance between a depth of 600 feet and 12,000 feet is in places only ten miles."

Science Among the Ancients.—The form, dimensions, structure, and uses of the great pyramid of Egypt have long engaged the attention of astronomers and other scientific men. It is generally known that this pyramid has been carefully explored and measured by successive Egyptologists, and that the dimensions have lately become capable of more accurate determination, owing to the discovery of some of the original casing-stones and the clearing away of the earth from the corners of the foundation, showing the sockets in which the corner-stones fitted Professor Piazzi Smith devoted many months of work, with the best instruments, in order to fix the dimensions and angles of all accessible parts of the structure. And he has carefully determined these by a comparison of his own with all previous measures, the best of which agree quite closely with each other. The results arrived at are: 1. That the pyramid is truly square, the sides being equal and the angles right angles. 2. That the four sockets on which the first four stones of the corners rested are truly on the same level. 3. That the directions of the sides are accurately to the four cardinal points. 4. That the vertical height of the pyramid bears the same proportion to its circumference at the base as the radius of a circle does to its circumference. Now all these measures, angles, and levels are accurate, not as an ordinary surveyor or builder could make them, but to such a degree as requires the very best modern instruments and all the refinements of geodetical science to discover any error at all. In addition to this we have the wonderful perfection of workmanship in the interior of the pyramid, the passages and chambers being lined with huge blocks of stones fitted with the utmost accuracy, while every part of the building exhibits the highest structural talent. In all these respects this largest pyramid surpasses every other in Egypt. Yet it is universally admitted to be the oldest, and also the oldest historical building in the world.

Sun-Spots, Their Effect on Climate.—The question of the effect of sun-spots on climate has been often discussed, and so many considerations are involved in it that our present imperfect evidence can not be taken as at all final. In a paper published in the *Monthly Notices* of the London Astronomical Society, Prof. Langley, of Alleghany Observatory, Penn., presents some conclusions drawn from a series of observations of his own. He claims that the sun-spots do exercise a direct influence on terrestrial climates by decreasing the mean tem-

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perature of our planet. This decrease is, however, so minute, that it is doubtful whether the influence can be deemed more than a transitory impression. The whole effect indeed is represented by a change in the mean temperature of our globe in eleven years not exceeding three-tenths of a degree.

Asteroid Discoveries in 1876.—The number of new planets discovered during 1876 was 12. We give the following list as published in the *Athenæum*:

No.	Name.	Discoverer.	Date of Discovery.
158	Koronis.	Knorre.	Jan. 4th, 1876.
159	Emilia.	Paul Henry.	Jan. 26th, "
160	Una.	Peters.	Feb. 20th, "
161	Athor.	Watson.	April 16th, "
162		Prosper Henry	April 21st, "
163	Erigone.	Perrotin.	April 26th, "
164	Eva.	Paul Henry.	July 12th, "
165	Loreley.	Peters.	Aug. 10th, "
166	Rhodope.	Peters.	Aug. 17th, "
167	Urda.	Peters.	Aug. 28th, "
168	Sibylla.	Watson.	Sept. 27th, "
169	Zelia.	Prosper Henry	Sept. 28th, "

No. 162 still remains nameless. Of the discoverers, Knorre resides at Berlin, Perrotin at Toulouse, and the Henry brothers at Paris. Peters and Watson have well maintained the honor of the country in this line of discovery during the year, and America still leads the world in the number of planets she has given to science.

In this connection it may be added that M. Leverrier has at length completed his laborious study of all members of the solar system. His chief object was to decide the question whether there is an ultra-Neptunian planet, which might be detected, as Neptune was, by the perturbations produced by it on planets already known. The conclusion is negative; there is nothing indicating the existence of a body outside of Neptune.

Origin of the Zodiacal Light.—This vexed astronomical question has been recently reopened by one of our American physicists, who contends that the cone of illumination, visible in the advance and recession of the sun, is caused by a section of the earth's atmosphere acting as a tremendous plano-convex lens condensing the solar rays in the form of a pyramid. This cone, as is well known, appears in this latitude most frequently in the spring and fall, when the atmosphere is extremely clear, and may be seen from eight to nine o'clock in the evening, and from three to five in the morning. That it is a phenomenon of solar action, is evident from the fact that its axis is always nearly parallel with a line drawn from the sun's center, in the same manner as the axis of the cone of light produced by a condenser, such as is used for microscope work, is nearly parallel with a line drawn from the light to the point or object illuminated. Its breadth at the base is usually about that of the tropical belt of the earth's atmosphere, and its apparent height is exactly such as would be anticipated under our theorist's view of the case. Of course, the surface of the earth reflects a vast amount of light at all hours in the day, and luminous results of this reflection may be rendered experimentally visible very readily, by observing it against a dark background, which, in the instance of the zodiacal light, is supplied by the shadow of the earth. The reader who is curious to calculate this problem more closely, may remember that the earth's diameter is to the sun's diameter about as 1 to 110, and the sun's diameter to the distance between the two bodies as 1 to 110—an odd coincidence in the figures merely. The length of the shadow cast by the earth at midnight can thus be easily ascertained, since it is simply the axis of an isosceles triangle the base and angles of which are known. The zodiacal cones of light, one in the east, the other in the west, occupy the base of the conical shadow cast into space by our globe. The reader will readily see how this happens. The earth's atmosphere being about forty miles deep, an oblique section of it, in the form of a huge plano-convex lens, is the seat of all those gorgeous light and color effects that come on just after sunset and just previous to the sun's rising. In addition to prismatic or color effects, due to clouds and to varying densities, the whole atmospheric section transmitting the sun's rays obliquely has, according to our author, an action exactly similar to that illustrated by holding a convex lens near a dark screen, with the axis of the lens presented obliquely to the light. The theory is an ingenious one, and fully accounts for the phenomenon; but on account of a single yet unascertained point, opinion must be for the present suspended. It has been stated, not demonstrated, by spectroscopists, that the zodiacal light is not reflected sun light; and if this statement is verifiable, such an explanation as that just offered is, of course, inadmissible. The proposed new view is, however, so simple and so thoroughly in accord with the ascertained laws of optics, besides offering such a complete exposition of all the phenomena involved in the problem, that one would almost regret to find the statement of the single spectroscopist, who has ever tested the question, verified by subsequent investigation.

A Cheap and Excellent Disinfectant.—Dissolve half a drachm of nitrate of lead in a pint of boiling water; then dissolve two drachms of common salt in a bucket of water; when both are dissolved, pour the two mixtures together, and when the sediment has settled you have a pail full of clear fluid, which is a saturated solution of the chloride of lead. A cloth saturated with the liquid, and hung up in a room, will at once sweeten a fetid atmosphere. Poured down a sink, water-closet, or drain, or on any decaying mass, it will produce the same result. The nitrate of lead is very cheap, and a pound of it would make several barrels of the disinfectant. The salt which furnishes the chlorine would not cost more than the water.

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AGRICULTURAL HINTS.

[The mind is the man. Farming, in the highest sense, is not simply doing the hard work necessary. This can be done by muscle when directed by brains. The true farmer is he who can plan, direct, and control skillfully.]

As this department is one which should contain the most recent gleanings of wisdom and experience, our readers and friends in the rural districts are invited to send us any items of value to agriculturists in general, and which should have a wide circulation. Due credit will, in every case, be given to the contributor.

Keeping Potatoes.—In the last number of your valuable journal I read an account of the potato. The author appears to know of no experiments that would warrant an extensive following for keeping potatoes so that they should not experience the vicissitudes of temperature, but thought the subject was well worthy of experiment. While at a coal-mine in our vicinity last fall, I was asked by a miner to go in the mine and look at some potatoes which had been stored away in the mine more than a year before. I did so, and found that the potatoes, of which there was a small quantity, two or three bushels, were perfectly sound and without any signs of decay. I was also told that those potatoes would not grow, as had been tested by planting in the spring. I think the failure of growth was owing to the dampness of the potatoes, as no care had been taken to keep them dry. Whether this is sufficient proof that they might be made to keep by a similar treatment, I am not able to decide, but this could be easily tested, without much expense, in regions where mines are numerous, as in Southern Ohio and Pennsylvania.

W J. LEWIS.

Social Advantages for the Farmer.—An article in *Scribner's Monthly* by an experienced agricultural writer, urges the formation of farm villages—the location of farmers' residences in convenient proximity for the sake of the advantages which are derived from close social relations between different families The writer urges his proposition strongly, thus:

"If American agriculture has an unsatisfied need, it is surely the need for more intelligence and more enterprising interest on the part of its working men and women. From one end of the land to the other, its crying defect—recognized by all—is that its best blood—or, in other words, its best brain and its best energy—is leaving it to seek other fields of labor. The influences which lead these best of the farmers' sons to other occupations is not so much the desire to make more money, or to find a less laborious occupation, as it is the desire to lead a more satisfactory life—a life where that part of us has been developed by the better education and better civilization for which in this century we have worked so hard and so well, may find responsive companionship and encouraging intercourse with others. . . .

"The social benefits and the facilities for frequent, neighborly, and informal intercourse are obvious. To say nothing of the companionships and intimacies among the young people, their fathers and mothers would be kept from growing old and glum by the constant friction of their kind; and in so far as a more satisfactory social relation with one's fellowmen gives cheerfulness and the richness of a wider human interest, in that proportion would the village life have a wholesome, mellowing effect that is not to be found in the remote farm-house, nor even in the sort of neighborhood we sometimes find in the country, where several farm-houses are within a quarter of a mile of each other. The habit of 'running in' for a moment's chat with a neighbor is a good one, and it gets but scant development among American farmers."

The better development of the church, and especially of the school, is discussed at some length, and the paper closes thus:

"One might go on through the long range of incidental arguments—such as lighted streets, well-kept side-walks, winter snow-plows, and good drainage, and a wholesome pride in a tidy, cozy village, until even the most close-fisted of all our class would confess that the extra cost would bring full value in return, and until he would recognize the fact that the attractions of such a home as the village would make possible would be likely to insure his being succeeded in his wholesome trade by the brightest and best of his sons—a result that would surely be worth more than all it would cost.

"But my purpose has been only to suggest a scheme which seems to me entirely, even though remotely, practicable, and in which I hope for the sympathy and help of the country-bound farmers' wives and daughters—a scheme which promises what seems the easiest, if not the only, relief for the dullness and desolation of living which make American farming loathsome to so many who ought to glory in its pursuit, but who now are only bound to it by commanding necessity."

Enriching the Root-soil of Trees.—When I was a boy and went to school, I delighted in planting stocks and "working" them, and I remember most distinctly a sort of freak of mine when about ten or twelve years old. It was to plant a plum stock in leaf-mold to see what the result would be, and I remember, too, it did not turn out to my expectation, especially in producing wood; but the leaves were two or three times as large as those in the ordinary soil, very much darker in color, and very glossy; and then in the autumn, boy like, I must take it up to see what the roots were like, and this was the greatest surprise, for not a root had gone beyond the leaf-mold, but in such a crowded mass as I had never before seen—and this

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one incident has been of great use to me, even up to now. When I used to practice "tree-lifting" I found similar results. A good compost or manure added freely to the soil in which the trees were put back produced but little wood comparatively, but the wood that was produced, very "short jointed," and very stout leaves, too, very large and dark, and flower-buds in abundance.—*Gardener's Chronicle.*

Death to Phylloxera.—August Mann, a Californian, publishes the following remedy for vines affected by the phylloxera, which he says he has discovered and has tried successfully in his own vineyard: "To twenty pounds of wood ashes add one pound of salt and one pound of common soap dissolved in water; put in a boiler, add five gallons of water, boil ten minutes, stir in the meantime; when cold apply it all over the trunk of the vine up to the new sprouts with a brush. Rub off the loose bark before applying it. This remedy kills the insects on the leaf, the producers of the root-louse, and its cheapness recommends it to all."

Predictions of Locust Visitations.—The Territories, and recently admitted States, which are more generally afflicted by locusts than the older Western States, were recently visited by Professor Packard, who collected personally and derived from farmers and others a mass of new information concerning the ravages of these destructive insects. This, with new observations on the habits of allied locusts in New England, will enable him to extend our knowledge of the distribution of this destructive locust, and will in great part furnish data from which he can begin the construction of a map indicating in colors its distribution and migrations. By conference with Professor Abbe of the Weather Signal Bureau, the facts observed seem to point to an intimate connection between the prevailing winds at different seasons and at different altitudes, which may offer an explanation of the astonishing extent of the migrations of locusts eastward, and the return in swarms westward of the succeeding generation born in Kansas, Wisconsin, etc. It is the conclusion from study of the migrations of the locusts in the Rocky Mountains region that their periodical visits probably coincide with unusual seasons, and that there are cycles of years recurring favorable or unfavorable to insect life; and it is believed that it will yet be possible to predict the arrival of injurious insects, and so render it possible to provide against depredations by them. The *Boston Globe* is of the opinion that if we shall be able to predict a visitation of locusts on such a year in Kansas or Nebraska, for instance, from meteorological phenomena occurring in the territories to the westward, then farmers can omit such crops as are most sought after by them, and increase those less liable to their ravages, and store them up for a year of famine, as did the ancient Egyptians.

Frost-proof Cellars.—We have often wondered at the indifference of farmers to the condition of their cellar walls, especially as their vegetable stores must suffer from the frost which the openings permit to have effect, and the family rooms are rendered more or less uncomfortable and unhealthful, in spite of big fires. A writer on the subject, who addresses himself to those who are in the habit of doing something toward stopping the holes in the wall, advises: "In looking to see how the frost gets into the cellar, one will find it is driven in by wind through cracks in the walls more than by the frost penetrating the wall, so that a thin wall made air-tight is more efficient than any amount of material would be if the air can penetrate it. And to learn whether there is danger of the cellar freezing, one has only to go on a windy night with a lighted candle, holding it along the inside of the cellar wall to see if the wind blows in enough anywhere to flare the light. If it does it will drive in the frost on a cold, windy day, and nearly all cellars will be found to be more airy in this way than the proprietor had been aware of.

"Now, as keeping out the wind will, in most cases, keep out the frost, I do that most effectually by putting on a good coat of mortar, plastering completely over the inside face of the wall, smooth work, and have it put on well up the sides of the sills, all around, so as to be sure and exclude the air from coming under them. Then by pointing up the outside face of the wall a little, if it needs, the cellar will be found to be nearly frost-proof. This should be done at least one or two years after it is newly built, after the season-cracks are opened; then the work will be most effectual. The best time to do the job is generally early in the summer, when the cellar is empty. Then clear everything from the walls, and brush them off with an old broom. Mix up a good bed of mortar on the cellar bottom, if there is room, and after letting it stand a few days to make, a mason can slap it on and spread it on the walls in a short time, making a nice job, and one more effective than any plan of banking up."

Open and Close Barns.—It has been the custom to side up barns with green boards so that in shrinking they will leave wide cracks for the access of air to the hay-mows. An important principle has been here overlooked. Fermentation, like combustion, requires oxygen to carry it on. Many farmers have learned that manure will ferment when well trodden so as to exclude the air, and that it seldom firefangs when thrown where cattle can tread upon it. The class above all others interested in grass and hay is dairymen. They have ascertained by experiments directed by science, that hay will keep better in clapboarded or battened barns than in the open stack. That the heating will be so moderate as to only dry out the hay without moulding. If this is a fact

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that hay may be safely put into a large mow in a tight barn less cured than ordinary usage requires, it is a very important fact for farmers, as it will enable them to gather their hay crop quite independent of the vicissitudes of the weather, for even when the hay is in the cock the interior surface is injured by the rain or dew.—*Rural Home.*



MRS. C. FOWLER WELLS, *Proprietor.*
H. S. DRAYTON, A.M., *Editor.* N. SIZER, *Associate.*

NEW YORK,
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WIDTH OF HEADS--Destructiveness.

A CABINET COLLOQUY.—NO. IV.

VISITOR—I have been informed by a medical friend that the difference of width in different heads is mainly due to the variations in thickness of the bone and integuments. If this be so, your system lacks validity in a very important particular. I have been looking at those casts of murderers—a very brutish lot they are, to be sure!—and find their heads to appear broader than those on either side of them, with some exceptions. But give me your opinion.

Heads differ in all anatomical respects—in quality and texture of brain, membrane and bone, in length, breadth, and height, and in that superficial expression which we call contour. The phrenologist who is competent to make a proper analysis of character can estimate almost at a glance the relative thickness of the skull and of the integuments, and thus approximate the precise volume of the brain. A person with a very coarse, fibrous organization may have a cranium whose thickness borders on one-quarter of an inch, but the average thickness among Americans is near one-eighth of an inch. Here is a skull, for instance, of a man of fine organization, but average culture, which is very thin, as you can judge by its lightness. The greater part of the bone does not exceed the one-sixteenth of an inch. Here is the skull of an Indian, from Scottsville, N. Y. You can see that it is but a little thicker, although the quality is quite inferior to the other. Here is another, sent to us from Olustee, Florida, and probably that of a half-breed. You can perceive at once its coarse structure by the grainy surface and spiculæ and modules of bone, and by its extraordinary weight, as compared with those others. This appears to be about three-sixteenths of an inch thick.

Visitor—Yes, but does not the bone vary in thickness?

It does, according to the development and activity of the different organs. If you will put your eye to the opening in the base of the skull which you hold in your hand, and bring the skull between yourself and the window, you will observe translucent spots here and there, or in some special region, showing that the bone is thinner in some places than in others. You see that the skull which you are now looking into is thinner near the auditory openings, and in the region of the forehead, than it is elsewhere—an indication that its owner, in life, was characterized by much physical energy and intellectual activity; that his motives were selfish in the main, and not inspired by those noble sentiments which reside in the upper portion of the brain.

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But the differences among heads in length and breadth are considerable. Your medical friend—like other persons who have not given special attention to the characteristics of the head and face—entertains only the general opinion, that the variations in the size of the brain are trivial, and may be accounted for by the variations in the thickness of skull and its exterior investment. Let me show you how the facts agree with him. Here is one skull—applying our calipers, it is seen to be six inches wide. Here is another, which looks broad, too, as we hold it in our hands; it measures not quite five and a half inches. I would say that the bone of this latter, being of much finer quality, is not as thick as the bone of the one first measured by one-sixteenth of an inch. Making that allowance, we find an absolute difference of almost half an inch in the width of the brain, and both skulls belong to the broad class. Here is a narrow skull. Measuring it, we find the breadth to be four and three-quarters inches—an inch and a quarter less than the first one we measured.

So, too, when we measure the length of skulls or heads, we find variations even greater than in the breadth.

Visitor—Here are the casts of men whom the world esteems—John Quincy Adams, W. L. Marcy, Napoleon Bonaparte, William Pitt, Dr. Geo. McClellan, Dr. Thos. Chalmers. It seems to me that their heads are as wide as those in that row of murderers. You impute that width, I believe, to development of the organ of Destructiveness. How do you account for the difference in their characters?

By the differences which are palpable enough in their organisms. You perceive that nearly every one of those casts of murderers is lacking in the upper and forward portions of the head, while the lower and back parts are predominantly large. Now notice the casts of the heads you have mentioned by name, and you must at once perceive the great difference in the development of the superior and anterior parts; in the balance of organization. Destructiveness is an unfortunate term, we think, for it expresses the abnormal or perverted influences of the organ. One might with equal propriety designate the organ known as Benevolence by the term Prodigality. Dr. Gall made two or three mistakes of this sort, and so brought upon his system much opprobrium, and greatly embarrassed its promulgation. He was unfortunate enough to name the organ which we improperly call Destructiveness, Murder, because he found it so predominant in the heads of the worst criminals; and Secretiveness, Theft, for the reason that it is usually prominent in those given to robbery. We, of course, must make allowance for mistakes committed in the height of his enthusiasm and zeal as a discoverer of new and grand principles. The world of mental truth which was so suddenly opened to him, would have disturbed the equilibrium of the gravest intellect.

The function of Destructiveness appears to be that of inspiring energy, thoroughness, and executive capacity. One who is small in this particular lacks the enterprise and vigor which are necessary at times for overcoming difficulties and conquering success. When he finds obstacles in his pathway of effort, he loses heart and gives up, with the lament, "I can't do it." Your man with large Destructiveness, however, will often be inspirited by opposition, and go persistently on toward his object. In some departments of life, some callings, a good endowment of Destructiveness is essential to skill. We do not know a surgeon of reputation who is not well marked in this respect. Look at Dr. McClellan's head.

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You see it is pronounced enough. And it is said that he actually delighted in performing a surgical operation. I infer from his organization that his pleasure consisted mainly in the gratification of two organs, Destructiveness and Benevolence. The performance of the operation exercised in a legitimate way the function of Destructiveness, in coöperation with the intellect and Constructiveness, while the thought of being able to cure or relieve his patient was a matter of enjoyment to his benevolent feeling. He attempted operations which other surgeons shrank from, and rarely failed to benefit the patient. When you meet a physician with a head that is narrow between the ears, you can rate him as wanting in the quality which fits men for emergencies. He may be gentle, kind, sympathetic, winning, adapted to plain, routine methods of treating sickness, but he will have no forceful energy, no decided expression of individuality. So it is with men generally who are lacking in this element.

Should you come in again, and we have the leisure, we shall be pleased to consider any other questions on this very interesting subject of the influence of Destructiveness, or on any other which may occur to you.

BLUE GLASS.

WE could not avoid making some mention of the almost mania which General Pleasonton's declarations have occasioned with reference to the wonderful effect of sunlight when filtered through blue glass upon vegetation and animal life. Here in New York, glass dealers have been driving a profitable trade in vitreous plates, tinted *a la Mazarine*, for domestic uses; the people, doubtless, thinking that so simple a remedy for the ills to which flesh is heir—involving no inconvenience to the stomach, like the pill and the draught; and if tried on a small scale, even less expensive than a single visit of the society physician—is worth a little personal consideration.

According to General A. J. Pleasonton, invalids suffering with nervous disorders, dyspepsia, prostration from accidents, rheumatism, fevers, have been cured by exposure to sunlight passing through windows in which were sashes having panes of blue and white glass, alternately inserted. He does not tell us whether these invalids were accustomed to live much in the sunshine before their experiments with the tinted glass; or, like most valetudinarians unaffected by some new sensation, passed most of their time toasting their shins by the fire, with the windows tightly closed and the shades drawn down. We know, and every hygienist knows, the vivifying influence of sunshine. No plant or animal can be vigorous and robust without it, and in this principle of healthy being, we think, consists about all that is wonderful in General Pleasonton's assumed discoveries.

Many years ago scientists of Europe experimented with the colors of the spectrum, to ascertain their different influences on the growth of plants; and their researches, particularly those of Beaudemont, from 1850 to 1860, have, as an ultimate, that for the production of flowers and fruit, the unadulterated sunlight, as the Creator has given it to us, is best. It was found that each color has its particular function—that of the red being the development of the green coloring matter in plants.

We can conceive instances of weakness or peculiar susceptibility, to which the full power of sunlight would be oppressive and harmful, and for which some shading, effected by the interposition of blue or green glass, or the open foliage of trees or vines, would be found appropriate. To weak

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eyes, glasses which will shut off a part of the brightness of sunshine are agreeable; but healthy eyes experience no inconvenience in the full illumination of the sunbeams.

For our part, we welcome the blue-glass sensation, as it may have the effect of making people generally acquainted with the salutary influence of sunlight on morbid physical and mental conditions.

ANDREW LEIGHTON.

OBITUARY.—We are called upon to record the death of another friend, one who for many years was an efficient actor in the field of Phrenology. Mr. Andrew Leighton died on the 14th of January last, at his residence, on High Park Street, Liverpool. His health for some time previously had given his friends much anxiety, but it was not thought that the fatal stroke would fall so soon, although he was somewhat advanced in life. Few men have the qualities for winning friends which Mr. Leighton had. He was a fountain of sympathy, counsel, and manly strength to the community in which he dwelt. In the course of his life he filled a multitude of duties with accuracy and efficiency, at all times being ready to serve others, and, if necessary, to make sacrifices of his own time and convenience for their sake.

Early in life he felt drawn to Phrenology, and was associated with some of the more prominent advocates of the science. He was very friendly toward its American exponents, and one of the first to welcome to the shores of Britain the former publisher of THE PHRENOLOGICAL, when, in 1860, in company with Mr. L. N. Fowler, he crossed the ocean to make the tour of England, Scotland, and Ireland. We have had occasion to notice the departure of several earnest and efficient agents in the cause of truth and humanity, but the loss of none has affected us more deeply than that of Mr. Leighton.

SENSIBLE, TO SAY THE LEAST.

THE New York *Herald*, in its edition of the 21st of March, publishes an account of "A Novel Test of Woman's Ability to Preach," by which it appears that a lady of eminent reputation in the Universalist Church was examined by a professional phrenologist in the presence of a large audience. Events had previously occurred which appear to have brought her fitness for the priestly office into question with some, but the opinion of the "professor," to whom the matter of her mental capacity was referred, seems to have had a conclusive effect upon the minds of those present at its delivery. He said "she possessed all the mental, moral, and spiritual powers that made her an excellent occupant of the pulpit. Her courage was such as to enable her to stand up with firmness in defense of the truth and opposition to wrong. She was honest in a high degree, and could not be a bigot. If the pulpits of Europe and America were filled with women like Mrs. —— the world would be much better."

Knowing the lady very well, we are ready to believe all this; for she, in mental culture and intellectual strength, stands head and shoulders above many men occupants of the pulpit.

A brief editorial comment in another part of the *Herald* alludes to this "novel test" as an instrumentality, which might be applied in civil service reform, includes this statement: "The President of the United States, instead of crazing his brain over the comparative value of the recommendations of rivals for any desirable office, need only

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tap his bell for his private phrenologist, and straightway the best man will be designated."

Furthermore, as if in approval of the suggestion, the editor adds: "If all postmasters and collectors have phrenologists assigned to them for duty, the unscrupulous will know better than to apply for positions. Slate makers in local politics will find the same plan useful; for, in spite of their experience, they do not always nominate as incompetent and dishonest men as a careful phrenological researcher might discover."

We have reason for thinking our new President not unfriendly to the science of character, but we opine that the fears of incompetent office-holders, and the jealousy of politicians, would raise too many obstacles to its direct introduction at the present state of public affairs.

THE TELEPHONE.

ANOTHER sensation of the day is this new instrument, which the telegraph has developed from its world of wonders, with the assistance of Mr. A. G. Bell. The reader has doubtless heard of it. But does he think of the revolution which it will likely bring about in the practical working of the electric wire for the purposes of correspondence? The experiments thus far made show that this simple attachment of a funnel or cylinder with a vibrating cover on one end could render words spoken at one place distinctly audible at another place two hundred and eighty miles distant, and it is thought by those interested in the new invention, that further improvements will adapt it to the transmission of sound for any distance, and render it easy for friend to communicate with friend without the intervention of a little instrument whose tickings must be translated into ordinary language by a trained operator.

The age is freighted with miracles of invention and thought. Who can deny, in view of the accomplishments of man, that there is something in his mental constitution which is akin to the creative. Space and time present no obstacles which his fiery genius can not remove, offer no problems which his mighty reason may not resolve. The triumphs of science and research, as one by one they burst upon our startled sense, illustrate with mighty emphasis the grandeur of the truth that man is the lord of the earth.

DOCTOR vs. DRUGGIST.

THERE has been some stirring up of an old matter lately, which interests druggists and those physicians who prescribe with paper and pencil. It may not be generally known out of the trade that many physicians receive a certain percentage of the price of the compounds which are made up under their direction—an agreement to this effect being entered into between them and the druggists. It is not likely that the latter are the losers by it, as their charges for prescriptions are notoriously high—the patient being expected to pay enough to cover both profit and the "consideration" which the physician expects. The remarkable increase in the number and variety of patented and officinal medicaments, which has been a marked feature in the drug trade during the past few years, indicates not only the tendency of the masses to "doctor" themselves, but as the pharmacists say, a reaction against the expensiveness of professional treatment, and of medicines prepared to order. A correspondent of the *Druggists' Advertiser*, in the course of a letter relating some of his experiences in the trade, says:

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"I feel individually called upon, as I for some time have been guilty of practicing in the way of 'counter prescribing' (repeating a prescription without the authority of the physician), to which I was forced by the greed, avarice, and ungentlemanly demeanor of some of my neighboring M.D.'s. When a young beginner, a few years ago, starting a drug store in a part of this city where I was entirely unknown, a stranger among strangers, I solicited the assistance and patronage of a physician who, shortly thereafter, so imposed upon me that his demands by far exceeded the profit made on the prescriptions he sent to me. You have often heard people complain of druggists being in league with physicians who pursue a system of robbery and outrage upon the suffering public, and I leave it to you and your readers to decide whether this report is altogether without foundation or not. I, for my part, would never take advantage of my customers, nbr yield to the freaks of a selfish member of the medical profession."

In the columns of the New York *Times*, some time in March last, a Brooklyn druggist makes a similar charge against the medical profession, and intimates that the custom of demanding commissions may increase the income of some doctors, but is rapidly reducing the prescription part of the druggists' business.

No comments of ours are necessary to show how mean and disreputable a course this mode of "making" money is, and that people are driven to rebel against it or its resultant extortions, who can wonder? Such measures, however, together with the honest efforts of the few noble physicians whose heads are above sham and trickery, tend to the enlightenment of the public with reference to the uselessness of drugs, and the adoption of methods of purification and nutrition which shall render diseases rare which are now common.

JOCOSE?—Under the caption of Pleasantries, in a late number of one of the leading religious weeklies of New York, we find the following items:

"An honest blacksmith, when urged to start a libel suit, answered, 'I can hammer out a better reputation on my anvil than all the lawyers in Christendom can give me.

"A counselor at Rome was strangled by a hair in the milk which he drank. This event caused the most serious results of anything that ever transpired in his family.

"Anacreon, one of the lyric poets, is said to have lost his life by swallowing the skin of a raisin. The world then lost one of the most illustrious poets and writers.

"A little gnat choked the great Pope Adrian to death, which caused wonderful changes in the history of the whole world.

"No labor of love can, by any possible combination of unfavorable circumstances, be lost. 'Forasmuch as ye know your labor is not in vain in the Lord.'"

If these be some of that editor's jokes, what a power he must be in his serious moods!

PERSONAL EXPERIENCE.—A veteran teacher and student thus writes to us:

"Allow me to say that during the thirty-three years of my life which have been spent in giving instruction to the young, Phrenology has aided me more than any and *all* other 'guides' in controlling *myself* and those committed to my care. Large Firmness, aided by Conscientiousness and Benevolence, saved the necessity of using the 'rod,' which is so often used as a safety-valve for the escape of anger. L. P. R."

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Our Mentorial Bureau.

[In this Department will be noticed such matters as are of interest to correspondents and to the general reader. Contributions for "What They Say" should be brief, pointed, and creamy, to secure publication.]

To Our Correspondents.

THE PRESSURE OF OUR BUSINESS IS SUCH *that we cannot undertake to return unavailable contributions unless the necessary postage is provided by the writers. In all cases, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage—stamps being preferred. Anonymous letters will not be considered.*

QUESTIONS OF "GENERAL INTEREST" ONLY *will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.*

IF AN INQUIRY FAIL TO RECEIVE ATTENTION *within two months, the correspondent should repeat it; if not then published, the inquirer may conclude that an answer is withheld, for good reasons, by the editor.*

SOMEWHAT INTOLERANT.—R. J. B.—We think that you are lacking somewhat in patience. You should not be so easily annoyed, or thrown off your balance when people do not appear to understand your meaning. The discipline of endeavoring to make a point clear to another when that other may seem to be obstinately stupid, is excellent; in fact, instructive. It helps you to improve your phraseology, so that you can speak with more definiteness. Of course, behind the expression is the exercise of the mental faculties, and such discipline whips them into order, and compels them to contribute their part toward the exposition of your views.

We can not say why Fowler's journal was suspended.

"WITHOUT A SOUL."—In reply to several inquiries we would say, that we account the article entitled thus without any real warrant or foundation. Now and then extraordinary tales of scientific experiment find their way through the papers, but are meant as witticisms at the expense of some theory or savant. To be sure, the minuteness of the account is convincing in its way, but that shows, as in some of Poe's sketches, the familiarity of the writer with scientific methods.

LIVER COMPLAINT.—Most diseases of the liver are easily treated dietetically, slight changes in the food being productive of benefit. Derangements result mainly from the excess of carbonaceous or heat-making substance in the food, which clogs the action of that great gland, and renders it unable to perform its proper function. Treatment differs according to the difference in diseased condition. If you will send us particulars with regard to your trouble, we shall endeavor to give you a few hints of service to you.

CURE BY CRITICISM.—J. H. F.—The idea is by no means new; it has been practiced for some time in the Oneida Community. You will find the matter pretty fully considered in a little pamphlet, entitled "Mutual Criticism," published by the Community. Any normal method which will produce reactionary movements in the system are usually beneficial to the sick one. Certainly the method adopted by the Artist's Club mentioned, is superior to the administration of drug-poison. It arouses the mind as well as the body, and dispels the sluggish inactivity into which the functions have fallen.

NAST.—You will find a pretty full sketch of this well-known humorous artist in the October number of the PHRENOLOGICAL JOURNAL for 1867.

SCALP MOVEMENT.—N. W. L.—Some persons possess the power of moving the scalp, while others do not, just as some are able to perform very difficult acrobatic feats which others dare not attempt. It is due to peculiar muscular mobility. Better control over muscles of certain parts of the body by almost everybody may be obtained by practice.

SENSITIVENESS.—Le Miserable is by no means alone in his infirmity. We have frequent occasion to communicate what we can in the way of counsel to persons afflicted, like himself, with abnormal nervous sensibility. We think that in Le Miserable's case it would be well for him to retire from a pursuit which compels much in-door confinement. Contact with sun and outer air, and an active muscular vocation would tone up his body and give him more physical vigor. He needs bodily strength as the foundation for nervous equilibrium. If he be inclined to dyspepsia, that in itself is one reason for his sensitiveness. Why not go into the country and take part in the pursuits of the agriculturist, and so acquire strength? We can

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scarcely conceive a high degree of manhood without a pretty good degree of physical energy. Many persons who would be great in their way are deplorably weak because they are lacking in vital strength, are sickly and diseased. In your associations avoid those who are rude, critical, severe; ask the sympathy of your intimate friends, ask for their encouragement and counsel. You need the ministrations of a good friend.

CATARRH.—Lieut. H. F. S.—We know that catarrhal affections can be best treated by hygienic methods. It is usually an inflammation of the mucous membrane. An article on the subject was published in the *Health Almanac* for 1875, which will furnish many hints of value in regard to its treatment. Price of Almanac 10 cents. We advise you to avoid all nostrums which are advertised with a great flourish of printer's ink. Send on your other questions.

DANDRUFF.—A very free condition of the excretory organs will produce dandruff unless you are careful to keep the skin clean. Accumulation of the scurf, however, may be due to more or less impropriety in your diet and other habits. The purer and better your food, the less there will be of work for the emunctories to perform, the less waste through the skin and other organs. Dandruff is not a sign of an unhealthy skin, except in its excess. As a daily dressing we advise the use of clean, tepid water and a good brush.

PASSIVE FACULTIES.—W. H. N.—Some men are well organized, yet they lack the power to exhibit the excellence of their organism on account of the want of correlation between the faculties of the intellect and the moral nature. There are persons whose mental condition in the moral realm is one of torpitude. This torpitude may be due to the character of their education and associations. Many a man has large arms, but is comparatively weak because he does not give them the exercise necessary for the development of the strength natural to them. You doubtless have met men who, although large and apparently strong-limbed, were, nevertheless, feeble pedestrians on account of sedentary habits; their muscles were large enough, but they lacked consistency, density, power, because they did not receive the use essential to manifestation of activity and power. Sometimes a man comes to us for examination, and we tell him he has large Constructiveness, ability to plan, invent, use tools; he expresses much surprise, intimating that he was not aware of the possession of such a quality. On inquiry we learn that his vocation has been one not adapted to its development. Upon our insisting that he would do well in a line which exercised such characteristics, he has gone away with an intention of making an experiment at least, and of ascertaining the truth of our declaration. In after time he has returned to us, and thanked the examiner for having opened the way to a new and better sphere in life. Many men appear to be dishonest who have a good degree of Conscientiousness, in an organic sense, but organs of a different class whose activity is predominant. There are men with large Benevolence, who, nevertheless, obey the influences of strong and active Acquisitiveness and Secretiveness, and do not show to the world a sympathetic and generous spirit.

IMPROPER MARRIAGE.—We can not advise you to marry into an epileptic family. Epilepsy is one of those nervous diseases which is transmissible, and usually appears in one form or other in children.

ELLIOTT BUCK, M.D.—Your article is at hand; can use it. Thank you for the interest shown to the PHRENOLOGICAL and the cause of truth.

What They Say.

"THE BLUES."—In this age of speculation, inflation, and contraction, "the blues" seem to have become a prevalent disease. Unlike other diseases, they do not attack people indiscriminately. Men seem more subject to them than women. The "blues" sometimes become chronic; this stage of the disease is marked by a general downcast air, and a sort of "touch-me-not" temper, that engender discomfort to all around, and cause a dull, unsocial family circle. Smokers usually tell us "there's nothing like a cigar or pipe of tobacco to drive away the "blues;" while others recommend "a chew," and the moderate "temperance" man prescribes a glass of ale or whisky. Yet that these "remedies" utterly fail, is palpable enough; you have only to look around you to perceive that smokers, chewers, and drinkers are more subject to their attacks than any other class; in fact, they seem to be alarmingly epidemic among them. The moment his pipe is gone, the smoker becomes subject to their attack, only to fly to his pipe again for relief. Deprive your "moderate" man of his customary stimulant, and he is even more helpless than the other without his tobacco. The truth is, these habits breed more "blues" than all the real troubles that we have. Real sorrows we may surmount, and soon reach the good instead of the evil; but evils that are bred in the imagination and nourished by morbid habit, are too likely to become deeply rooted and

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cast their gloomy shadows over the whole life. It is enough that we should share our real trials with our loved ones, without inflicting upon them ideal and vicious ones too. There is, however, one helpful course for "blues." Stop your chewing, smoking, or drinking, if you have any such practice, and try to do all you can to make every face around you cheerful. You can't do that without carrying a cheerful face yourself; and you will be surprised to find how far the "blues" are a chimerical disease, that will vanish as readily as the smoke from your once beloved pipe. MRS. M. M. B.

IN THE WOODS.—Reader, are you tired of the cares and toils of city life, and do you sigh for an elixir for over-taxed nerves and brain? Then hie you away with me to the woods, to the grand primeval forest, where the great physician, Nature, waits to welcome you. Here in this sylvan dell is a grotto—just room enough to sit, or lie with head reclining against that gnarled old tree, or cosily ensconced upon this clump of moss which is

"Loitering atween
Its russet gown and emerald green."

Ah, how cool and refreshing is the breeze, how restful and quiet is all around! The wind sighs through the trees with its old, musical murmur; the sun smiles upon you with mild unobtrusiveness. Nothing seems to be in haste, save the pebbly-brook, which rushes down from among the hills yonder to join some sister brooklet in the valley below.

Moments glide into hours as we sit drinking in the blessed peace of this lonely dell. This is what you need—rest and quiet. The pain is gone from your throbbing temples, and your nerves thrill with a new life. Now you can open your eyes and observe what is going on about you. "Nothing to observe," did you say? We will see. The noisy brook attracts your attention. Its bed is covered with pebbles and boulders, and out in the middle of the stream, on a projecting rock, sits a bird of sober hue, thrusting his head into the water with a sort of dipping motion, now half immersing himself, and now darting entirely out of sight, and as quickly re-appearing. You never saw a bird that so loved the water? A mistake. It is not so much the water that he loves as what is in it. He is an industrious little fellow, and is getting his "grub" now, or perhaps providing for his family. He is called the water ouzel, or dipper (*cinclus aquaticus*), and a clean, trim-looking fellow he is, as who would not be with such constant bathing? He inhabits mountainous districts, and haunts these clear, rocky-bottomed, swift-running streams, from whence he gleans his food, which consists of small fishes and insects. His color is of a dark blue, mingled with black, and his size about that of the American robin. He belongs to the same family—the Thrush—and is a sort of second cousin to the American mocking-bird (*Orpheus polyglottus*), the black-bird, the song thrush (*T. Musicus*), and to the field fare or gray thrush (*T. Pelaris*), yet, unlike them, is not noted for his musical talent. He belongs to the order of incessores, or perchers—the highest rank in bird-world—and so called from the peculiar construction of the feet, which enables them to cling about branches and twigs of trees and rest upon them. This is an interesting little bird, and doubtless has family secrets, which I feel inclined to pry into, as he surely could a *tale* unfold if he would. I have never yet found his hidden treasure, but have no doubt it is close by, and that he there attends to his family duties, assists in rearing the young, and maintains the dignity becoming a *pater familias*. You still sit watching his graceful fluttering motions, envying him his quiet, busy life, until he flies away, perhaps to carry his mouth full of bread to the children. So much you have seen "going on" in this busy work, and you may have caught the idea that nature is never idle, and that rest is only another kind of action.

OLIVE A. DAVISON.

"DIED YESTERDAY!"—Every day these words are written, and every day homes are darkened, and souls penetrate the mysteries of the great hereafter. Every day weary, aching hearts find that rest in the grave for which they yearned so vainly here, and every day strong hearts, not yet grown weary of the march of life, are summoned by the white-winged messenger, Death. "Died yesterday!" An aged pilgrim, on whose hoary head had fallen the snows of eighty winters, who after treading long years with bleeding feet the "narrow way," has been welcomed home with the words, "Well done, thou good and faithful servant." "Died yesterday!" A bright and joyous maiden, who fain would have lingered yet a little longer on earth, for life to her has ever been a sunny dream. "Died yesterday!" In a miserable garret, all alone, the wreck of a once noble man. Pursued and driven by the fierce fiend Alcohol from home and friends, from wealth and honor, down the steep road of ruin, till after long hours of agony, remorse, and grief, in the silence of midnight, with no loving hand to smooth the dying pillow or close the glazing eye, the struggling spirit burst its fetters and soared upward beyond the stars. "Died yesterday!" In all its purity and innocence, a little child, whose stay on earth was so short that the look of Heaven never left its eyes. On its grave should be written, "Gone in the morning; and there's no night there." "Died yesterday!" In the cold, dark street, one whose soul was once as pure and white as yours.

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What are you that you should draw your dainty wrappings more closely round you and pass so scornfully by. That scornful glance may plant another thorn in the already crushed and bleeding heart. If you are pure, it may be because you have never been tempted. Were you to meet half the temptations that poor soul has encountered, you might have been now fathoms deeper in the dread abyss. You, too, might have pressed your throbbing brow to the cold curbstone and prayed for death and even annihilation.

"Alas! for the rarity
Of Christian charity
Under the sun.
Oh, it was pitiful,
Near a whole city full,
Home she had none!"

"Died yesterday!" How soon may these words be written of us, and how soon may we be sleeping the dreamless sleep. "Died yesterday!" they will say, then breathe our name, and go on their way quite forgetful that perhaps the morrow's breeze will bear away the same words spoken of them. To-day we are, to-morrow we are not, yet the world goes on still the same.

F. E. ARTHUR.

ONE DRAWBACK TO HYGIENIC PROGRESS.—One of the greatest drawbacks to the hygienic system, is the failure on the part of the physician to convince the patient that a rigid and abstemious diet is the one best suited to aid in his recovery. The latter looks about him and sees those who indulge freely in the use of pork, tea, coffee, and all kinds of condiments, apparently tough and hearty. Then glancing at himself, a poor, weak, emaciated invalid (in most cases the result of similarly bad living), he is in nine cases out of ten, led to regard dieting as a farce and humbug; and losing faith in one point, he naturally will in others, so that in many cases all faith is lost; and the result is, Hygiene has another opponent, and the drug-men another patient to experiment upon. Many people are becoming dissatisfied with the drug system of medication, and would be ready and willing to accept the hygienic if they were only allowed to indulge in every kind of food that their depraved appetites called for. It is the opinion of at least two-thirds of the people that it is impossible for any article of food taken into the system to cause any harm, if it causes no uneasy sensation in its passage through the alimentary canal. They know, perhaps, that some articles of food, like fine flour, are constipating, and, therefore, are considered slightly injurious. Not being conversant with physiology, they can not understand, without a thorough explanation, why it is that pork and all kinds of condiments are injurious if taken into the system This one idea, and this alone, is the hobby, that nothing is injurious if it does not immediately disturb the digestive organs.

It is impossible to make the public accept a new theory, no matter how much benefit they may derive from it personally, if we can not explain it on scientific principles, and also succeed in convincing the majority of the truth of those principles. Therefore, in order to have the hygienic system a success, it must be explained minutely in every respect, especially what relates to diet. It must be explained simply and plainly, that many articles which are taken into the system do not apparently disturb the stomach, but when absorbed into the blood, have a tendency to render it foul; and that they must be expelled through the various emunctories—skin, liver, lungs, etc. These organs being thus given an excessive amount of labor to perform, become weak and congested, and fail to do their office; hence arise various diseases, both acute and chronic.

It must be explained how it is that many can bear things that are in abnormal relation to the vital organism, and others can not. It must be explained that those whose occupations compel them to be much in the open air, expel morbific agents from the system easier than those of sedentary habits. It must be explained why those who are afflicted with chronic diseases, and are obliged to be careful in regard to their diet, rarely have acute diseases, like fevers, inflammations, etc. These are among the points which appear difficult for the people to comprehend, and as soon as they are informed upon them, we may look forward to the time when the drug system shall lack support, and injurious articles of food be dispensed with.

ELLIOTT B. BUCK, M.D.

WHAT WILL BE THE FINAL RESULT?—Are we advancing, or are we receding? In other words, is the world in general slowly, but surely, approaching a state of perfection morally and socially, or is it, on the contrary, dropping back toward a total depravity? Most persons would, no doubt, claim for mankind that grand and never-ceasing progression, of which we hear so much from the philosophers and sages of to-day; and they would probably be correct in their imputations to a certain extent, for it is undoubtedly true that the world, or a large portion of it, is progressing rapidly toward a degree of perfection in "wisdom" and art that astonishes itself.

But while it may be gratifying to realize this truth, still it must be admitted that a great part of mankind is lacking in that honesty and virtue that tend to add to the happiness and enjoyment of life. The American people thirst for fame; and in the rush for notoriety, many lose sight of the grand principles which underlie human hap-

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piness, and which are the foundations of society. Ours is a country which affords rare opportunitie for ambitious and designing persons to rise from the low and vulgar paths of life to the highest positions of honor and emolument, and it has become a common saying with such that "money will do anything;" that it will loose the halter, open the prison bars, or elevate the lowest individual to the highest circle.

We appear to be far from the solution of our problem, "What will be the final result?" but it may be hoped that the world will experience at some period in the future a grand and sweeping reform. May it not be that a bright and glorious millennial will suddenly burst upon the sombre world, and mankind will rise in desires and ambitions far above the earth, and every man will love his neighbor as himself? A. D. J.

WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

When God endowed human beings with brains, he did not intend to guarantee them.

When a man has no design but to speak the truth, he may say a great deal in a very narrow compass.

The wealth of a man is the number of things which he loves and blesses, which he is loved and blessed by.

Great minds, like heaven, are pleased in doing good, though the ungrateful subjects of their favors are barren to return.

We can not conquer fate and necessity, yet we can yield to them in such a way as to be greater than if we could.

The world is a looking-glass, and gives back to every man the reflection of his own face. Frown at it, and it will in turn look surly upon you; laugh at it, and with it, and it is a jolly, kind companion.—Thackeray.

Too much of joy is sorrowful,
So cares must needs abound;
The vine that bears too many flowers
Will trail upon the ground.

—Alice Cary.

He who, with strong passions, remains chaste—he who, keenly sensitive, with manly power of indignation in him, can be provoked, can yet restrain himself and forgive—these are strong men, spiritual heroes.—Robertson.

Accustom yourself to overcome and master things of difficulty; for if you observe, the left hand for want of practice is insignificant and not adapted to general business, yet it holds the bridle better than the right, from constant use. —Pliny.

Were a man to throw away a dollar every minute, he would be looked upon as a madman, and his friends would confine him as such; but a man who throws away his time, which is far more valuable than gold, may still pass for a wise man.

MIRTH.

"A little nonsense now and then,
Is relished by the wisest men."

Mr. Jones was advised to get his life insured. "Won't do it," said he, "it would be my luck to live forever."

Teacher (to little boy)—"Well, my boy, do you know your tables?" Pupil.—"Yes, ma'am; breakfast table, dinner table, and supper table." The boy goes to the head of the holiday class.

She asked him if her new dress wasn't as sweet as a spring rose, and the brute said it was, even to the minor attraction of still having a little *due on it*.

The following conversation is said to have taken place in a Third Avenue lunch shop: "Waiter!" "Yes, sir," "What's this?" "It's bean soup, sir." "No matter what it has been, the question is—what is it now?"

"Ladies and gentlemen," said an Irish manager to his audience of three, "as there is nobody here, I'll dismiss you all; the performance of this night will not be performed, but will be repeated to-morrow evening."

Two young attorneys were wrangling for a long time before Judge Knox, of Virginia, over a point of law. His Honor rendered his decision, and the sprig who had lost impudently remarked: "Your Honor, there is a growing opinion that all the fools are not dead yet." "Certainly," answered the Court, with unruffled good humor. "I quite agree with you, Mr. B., and congratulate you upon your healthy appearance."

Spit.—As the train stopped for ten minutes, and that individual who goes along tapping the wheels with his hammer was passing rapidly by the smoking car, one of the windows was hoisted and a torrent of tobacco spit was ejected which almost deluged him. The machinist paused for a moment, and wiping some of the streams from his person, said to the offender:

"Mister, what part of the country did you come from?"

"Me?" said the spitter, puckering his lips for another expectoration, "I come from Kansas."

"I thought so," said the machinist, "for if you had lived in Massachusetts or Connecticut they would have had a water-wheel in your mouth long ago."

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In this department we give short reviews of such NEW BOOKS *as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor us with their recent publications, especially those related in any way to mental or physiological science.*

RELIGION AND SCIENCE: The Psychological Basis of Religion considered from the Standpoint of Phrenology. 12mo, paper, 20 cents. New York: S. R. Wells & Company, Publishers, 737 Broadway.

This neat pamphlet is worthy of an attentive reading by all who take an interest in that most important question of the day: Is Science in conflict with Revelation? Some months since, the publishers of the PHRENOLOGICAL JOURNAL AND SCIENCE OF HEALTH offered a premium for the best essay on the relations of science and religion, and from those prepared and sent in for competition, the above-entitled paper, by a well-known neurologist, of New York, was selected as possessing the most merit. It is a close discussion of the prominent points involved in the subject, introducing in its course the verdict of history, the psychology of nations, civilized and barbarous, the researches of scientists, and the testimony of the nervous and mental constitution of man. Its treatment is so comprehensive that the views of leading physiologists, like Professors Tyndall and Huxley, and of theorists, like Hamilton and Spencer, have a careful consideration. The whole pamphlet contains no single display of effusive rhetoric, but is calm, measured, earnest, declaring it to be the work of one whose method is that of the thorough scientist.

As a contribution to the cause of religious truth, this essay stands alone among publications in the same line for brevity, comprehensiveness, and argumentative vigor. To those in whom a knowledge of science has awakened serious doubts concerning the existence of a divine guardian in nature, this little work is cordially commended as quite competent to resolve their doubts and to help toward restoring that harmony and sense of moral comfort which are essential to human happiness.

The pamphlet is clearly printed on fine paper and costs but twenty cents.

OUR COFFEE-ROOM, by Elizabeth Cotton. With a Preface by Lieutenant-General Sir Arthur Cotton. 16mo, pp. 278, cloth, tinted paper. Price $1. New York: National Temperance Society and Publication House.

This is an English temperance story, or rather an account of the workings of an enterprise having in view the moral and intellectual improvement of the working classes. The scene of the story is one of the valleys of Surrey, where, notwithstanding the beauty of the landscape, sin had intrenched itself, and through the instrumentalities of strong drink had wrought much of evil and distress. A coffee-room was established. It can not be expected that he who has contracted the baneful habit of daily indulgence in alcoholic beverages can at once relinquish them without serious discomfort, without sustaining, in fact, a powerful nervous shock. A good physician casts about for a temporary substitute when he would have his patient give up the use of brandy or opium—something which, while less injurious, will, to some extent, compensate for the daily stimulant; which will, in a measure, sustain the nervous system against that terrible collapse of physical strength which ensues on a complete denial of the accustomed potations. Coffee, to a considerable extent, is a substitute, injurious enough in itself in its effect upon the nervous system; but it can not compare with the common alcoholic drinks in the measure of damage done to the habitual user. This coffee-room, instituted by a devoted Christian woman, led to wonderfully good results, and the record which the author has given us should encourage similar enterprises among the philanthropic. They who would be benefactors of their unfortunate neighbors, should give them pleasant gardens, entertainments, places of amusement, encourage a love of the beautiful, and thus elevate gradually the debased mind, the deformed taste and low pursuits of him who has been led captive by a destructive practice. The book should be widely read. Its suggestions are valuable for the consideration of the charitable in every community.

MARVELS OF PRAYER ILLUSTRATED by the Fulton-street Prayer Meeting, with Leaves from the Tree of Life. By Matthew Hale Smith, author of "Mount Calvary," "Sunshine and Shadow in New York," etc. Price $2, by mail, from this office.

Nearly twenty years ago it came into the head of an earnest Christian merchant, connected with the Old North Dutch Church, situated on the corner of William and Fulton Streets, New York, to afford an opportunity for an hour's quiet attention to things spiritual and religious to the busy community which surrounded that old edifice. He made a beginning, opened the church at the hour of noon for the attendance of all who felt inclined to mingle heart and voice in the exercises of prayer and praise, and although he sat alone through half of the hour of the first day, and little encouragement was given by the rushing tide of human life around him for several days, yet he was at length rewarded by an increasing attendance and a heightening interest until the noonday meeting in Fulton Street be-

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came an institution widely known and a power in the land.

This well-printed and bulky volume is in one sense a history of interesting incidents associated with or growing out of the Fulton-street meeting, a record of many of its accomplishments in reforming men and women whose career was that of vice or irreligion or improbity. There are two hundred and eighty-eight paragraphs, each expressing a scriptural sentiment, following which is an account of one or more incidents practically illustrating it. To all who are engaged in religious or missionary work, this volume must be of utility, furnishing as it does so much of mature thought and real experience. The author has certainly done his part well, and thousands of people who joined in the harmonies of the noonday prayer are thanking the publishers for providing this renewal of their experiences there.

HEREDITY, OR RESPONSIBILITY IN PARENTAGE. By Rev. S. H. Platt, A.M. 12mo, paper, 10 cents. S. R. Wells & Company, Publishers, 737 Broadway, New York.

This interesting essay on the duties of husbands and fathers, prepared from a series of sermons by an eminent clergyman of Brooklyn, meets one of the wants of the day. Our people generally need sound instruction with reference to the conditions upon which mental and physical health depend; and from what better source may it be obtained than from the lips of a learned and earnest minister.

Constituting No. 2 of the "Science Tracts," published by a gentleman whose zeal and activity in the cause of popular reform are unquestioned, pure in tone and simple in treatment, this pamphlet should have a wide circulation, and a thoughtful reading by the married and single. The price—ten cents—commends it alone.

PUBLICATIONS RECEIVED.

THE ELEVENTH ANNUAL REPORT of the American Society for the Prevention of Cruelty to Animals. In a concise form the officers of this useful society present the work of the past year, which shows that in upward of two thousand instances the infliction of cruelty upon poor dumb beasts, especially horses, was prevented by its agents. The table of branches and associations of a cognate nature shows that nearly every State of the Union has one or more.

THE MONTHLY WEATHER REVIEW, for February, lately received from the chief Signal Officer, shows that the more noticeable features for that month were the severe storms which occurred between the 15th and 25th in different parts of the country. Continuance of warm weather experienced in the latter part of January, giving higher average temperatures than usual for all the districts except the South Atlantic and Gulf States. A deficiency in the rain fall, excepting Oregon; the absence of destructive freshets; the frequency of lunar halos, from the 20th to the 26th; and the hatching of grasshoppers in Minnesota, Iowa, Kansas, and Nebraska. On the 18th, a light shock of earthquake was felt at Portland, Maine; on the 17th, a heavy shock at Quincy, Cal.

SCIENCE AND ART OF EDUCATION. By Joseph Paine.

TEACHING COLOR. By Professor Norman A. Calkins. Being notes from lectures delivered before primary teachers of the New York Normal College.

THE KINDERGARTEN ENGRAFTED on the American Public School System: being Extracts from Official Reports on the Public Kindergartens Established by the Board of Public Schools of the City of St. Louis, Mo.

WASTE OF LABOR IN THE WORK OF EDUCATION. An Address by P. A. Chadborne, LL.D., President of Williams College.

HISTORY OF THE PHILOSOPHY OF PEDAGOGICS. By Charles W. Bennett, D.D., of the Syracuse University.

The foregoing five are the titles of a series of papers on education, recently published by Mr. E. Steiger, Publisher, of New York city. Coming as they do from gentlemen prominently connected with American education, no special comments of ours are necessary to impress the reader with their importance. Their prices are low—from three to five cents each.

THE KINDERGARTEN GUIDE: An Illustrated Hand-book, designed for the Self-Instruction of Kindergarteners, Mothers, and Nurses. By Maria Kraus-Boelt and John Kraus. No. 1.—The First and Second Gifts. New York: E. Steiger, Publisher.

This book will doubtless be welcomed by the public; the need of it having been experienced some years past by those interested in kindergarten methods of instruction—the cost of attaining the requisite hints from kindergarten teachers being very considerable, in most cases altogether beyond the means of persons desirous of adopting them in their work as teachers.

PEDAGOGICAL LIBRARY. Part Second. Contains an extended list of books on Education, General Philology, works of Reference, etc., in English, German, and French. Also by E. Steiger.

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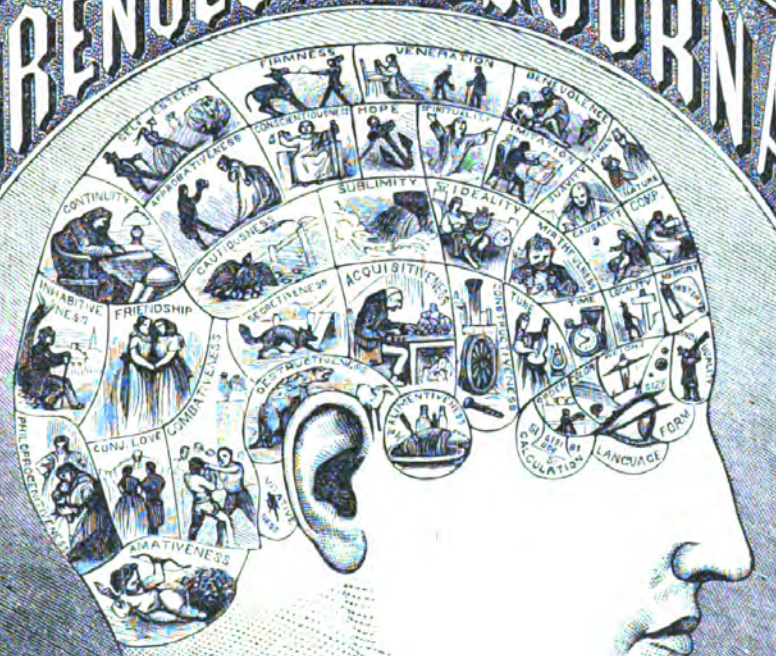
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PHRENOLOGICAL JOURNAL



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THE PHRENOLOGICAL JOURNAL AND LIFE ILLUSTRATED.

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WILLIAM M. TAYLOR, D.D.,

OF THE BROADWAY TABERNACLE, NEW YORK.

DR. TAYLOR affords the student of character an interesting study. In his physical organization there appear two or three ethnic elements—the sturdiness of the Saxon and the elasticity and wiriness of the Gaul being prominent. So in his mental

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composition, similar types of race are impressed. Temperamentally the motive and mental elements are conspicuously marked—the vital appearing scarcely adequate to supplement fully the demands of the others. The head is large for the size and weight of his body, but well filled out in the basilar portion, thus indicating a high degree of viability—that mental appreciation of life which conduces to active physical functions and continued healthfulness. The brain fiber is fine, and of that quality which accompanies intensity and susceptibility. Dr. Taylor is strong, vigorous, enduring, yet excitable and impressible to a degree much beyond that of the average of men. He can apply his intellectual powers, earnestly and persistently, to whatever task his professional duties may present, and as there are no half purposes nursed in his thinking, he accomplishes more than his primary object. His intensity tends to lead him beyond his strength. He loves activity both of mind and body, and enjoys such occupations as afford their simultaneous exercise. He thinks best when on the move; and so probably works up the plan and purport of his sermons and literary ventures when on his feet. He is a ready and constant observer of every-day life—gleans from every experience some material for use. He is also sharply analytical, appreciating at a glance the properties, relations, inharmonies, and incongruities of things. He would have made an admirable naturalist or physiologist: in fact, would have taken a good place in any department of science. He is a keen critic of arguments, at once discerning the inconsequent and sophistical.

He is prudent and cautious, yet emphatic and bold in statement. He has a fine endowment of Ideality, which serves to adorn utterances which would otherwise be positive and direct expressions of opinion. His esthetic disposition indicates itself in a fondness for whatever is tasteful, well finished, elegant, and choice. And whatever he does in a deliberate manner is invested, as far as may be, with grace and refinement. Refinement to Dr. Taylor is an essential accompaniment of education. A man educated in all the learning of the schools, but without esthetic culture, seems to him like a Tuscan shaft—angular and bare. He would have men like the Corinthian column—strong, firm, useful, and beautiful. He believes in stability and practicality as much as any man, and also believes in giving to the useful and common-place a garniture of refinement and attractiveness.

Among the clergymen holding high position in New York city Dr. William M. Taylor takes good rank. Like the Rev. Drs. Hall, Ormiston, and Bevan, he came from Great Britain, in response to the solicitation of our religious community, finding a worthy field for his capabilities as successor to the Rev. Dr. Thompson in the pastorate of the Broadway Tabernacle church. He was born in Kilmarnock, Ayrshire, Scotland, October 23d, 1829. His parents belonged to the robust people of that country, and he numbers among his ancestry, it is said, some who suffered the extremities of persecution because of their adherence to the faith of the Covenanters. He had what facilities for education were afforded by the academy of his native town. And while a mere school-boy performed for his mother the part of an amanuensis, and she by way of reward subscribed to the public library of the town on his account. Thus, to a great extent, the taste for reading, which he has retained through life, was formed. When sixteen years of age he entered the University of Glasgow, and took high standing in the study of classical literature. Leaving the university in 1849, he commenced the study of theology with a view to entering upon the ministry of the United Presbyterian Church. In 1852 he obtained his license to preach from the Presbytery of

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Kilmarnock. While pursuing his theological course, he performed much service as a teacher; occupied for seven months the place of rector of the academy where he obtained his early education, and his performance in this relation proved so satisfactory to the directors that he was invited to take the position as a permanency, but having made choice of the ministry he declined. In June, 1853, he entered upon his duties as the pastor of the United Presbyterian church at Kilmaurs, a small village near his birth-place. He was not permitted to remain long there, when his abilities had obtained recognition beyond his retired parish; two years later, he was called to be the pastor of the newly-formed congregation at Derby Road, Liverpool, England. This new relation was by no means an easy one. The congregation was but a small nucleus, only forty members, and much labor and perseverance were necessary to promote its growth. Dr. Taylor was not found wanting in what was necessary to be done, and entering zealously into the work, the little church in the course of years became a large and influential organization, and one of the most prominent of the Presbyterian denomination in England. Dr. Taylor was known in Liverpool and its neighborhood not only as an energetic pastor, but also as an earnest advocate of temperance reform. During this ministry he was invited to take important charges in Glasgow and in London, but declined. In the summer of 1871, being desirous of visiting America, a friend belonging to the Church of the Pilgrims, Brooklyn, who knew of this desire, prevailed upon him to accept an invitation to occupy that pulpit for two or three months, while the Rev. Dr. Storrs, its incumbent, should make a short tour in Europe. Here Dr. Taylor gave such satisfaction that when the people of the Broadway Tabernacle were looking around for a minister to fill the place of Dr. Thompson, they thought it expedient to invite Dr. Taylor to take it. The thought of settling in America had not even entered into Dr. Taylor's mind, and he had also refused other propositions which had been made to him by American churches, but now the opportunity seemed to be one which he could not lightly consider, and after some reflection he consented to accept it and enter upon the labors of his new sphere in March, 1872. Thus far his ministry has obtained the entire approval of his large and wealthy congregation.

Besides his ministerial work in England and America, Dr. Taylor has been a contributor to the periodical press for several years. He has also published several books, viz., in 1862, "Life Trials;" in 1865, "The Miracles, Helps to Faith, Not Hindrances;" a volume designed to meet the doubts and speculations of Renan and Strauss—two volumes; "The Lost Found, and the Wanderer Reclaimed;" a series of sermons on the fifteenth chapter of St. Luke. In July, 1872, he received the degree of D.D. from both Yale and Amherst Colleges. Since the beginning of his ministry in New York he has published "David, King of Israel;" "Elijah the Prophet;" "Peter the Apostle," and a volume on "The Ministry of the Word," embracing his Lectures on Preaching, delivered to the students of the Yale Theological School, in 1876.

In personal appearance Dr. Taylor is a good specimen of the Scotch type of physical and mental constitution. He is of medium height—about five feet eight inches—compact, and densely built, and indicating in his quick movement no small degree of physical vigor. As appears in the portrait, his head is large, the forehead broad, rounding from the eyebrows backward. He has thick black hair and rather heavy whiskers.

As a pulpit orator Dr. Taylor is considered one of the leaders in the American ministry. His manner is lively, emphatic, and forcible; his voice is strong, but never seems to go beyond his control, being modulated in a way to give excellent effect to his utterances. He gesticulates a great deal; illustrates his points freely, copiously, showing a profound and ready knowledge of the Scriptures and of the different phases of human character and conduct. As a writer he manifests a high degree of esthetic culture, accompanied with clearness and originality of argument and illustration.

From a sermon preached in March last

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by Dr. Taylor, the following paragraphs are taken, as illustrating his manner of thought when in the pulpit. The text on which the discourse was founded is Matt. v. 16:

"Let your light so shine before men that they may see your good works, and glorify your Father which is in Heaven."

The world is in darkness in reference to the highest and most momentous of human interests. Its votaries, indeed, are enlightened enough in all matters pertaining to business or pleasure. They know how to buy and sell and get gain. They can compass sea and land to make a fortune, and everything that conduces to the safety of property or the rapid accumulation of wealth is carried by them to its utmost perfection; while the ingenuity of the seeker of pleasure is equaled only by the devotion of his heart to its enjoyment.

But on spiritual things men are in darkness. They do not know God, and though they feel within them the gnawings of a guilty conscience, they know not how that agony may be removed or how their sins may be forgiven. Perhaps the loftiest altitude of civilization and refinement ever reached by unaided men was that to which ancient Greece attained. Her philosophers still lead the van in metaphysical inquiry; her orators have out-distanced all competitors; no poet has graven his name more deeply on the annals of humanity than he who sung of the rage of Achilles and the siege of Troy; our modern sculptors go to learn their art amid the ruins of her Parthenon; and the aim of each new historian among ourselves is to wed the *naïve* simplicity of the father of history to the sharp, incisive strength of Thucydides. Yet, with all this intellectual and esthetic culture, the most that the inhabitants of the Grecian capital could do religiously was to erect an altar with this inscription: "To the unknown God." Now, if that was true of Greece, we may easily imagine how dark and deplorable the ignorance of other nations must have been. But the Lord Jesus came to dissipate this darkness by revealing God to us, and showing us not only how we may obtain forgiveness, but also how we may attain to His image and become partakers of His nature.

. . . . . .

The Church is the conservator of the truth; and if there had been no such association of believers as that which Jesus founded, the world would not have been evangelized even to such a degree as it is now. I do not wish to say a word that may seem to depreciate the importance of the individual; yet it is undeniable that associated effort is essential for the conversion of the race. But for the existence of a Church, no such building as this, which is a center of influence among us and a basis of operations on the surrounding districts, would ever have been erected or could be maintained. The importance of such concerted action has been seen and recognized in other departments. When men have some object of benevolence or justice or political economy to secure, they are not content to labor each alone. But they form leagues or associations for the attainment of their several ends. And when the agony of war is upon a nation, its reliance is not upon the guerilla exploits of individuals, however daring or dashing these may be, but upon the prearranged movements of closely-compacted and well-disciplined armies. So, if we wish to do the most for the enlightenment of the world, we ought to connect ourselves with that visible company of the faithful whose aggregate effulgence is in the end to irradiate the earth. Nay, more, the Church is the perpetuator of the truth.

. . . . . .

Suppose, my friend, that every one were to follow your example and to content himself with being "a disciple, but secretly." Then the Church would die out in the lifetime of a single generation. And have you considered what the dying out of the Church would involve? It would eventuate in the dying out of the ministry from among us, with all its functions of instruction, consolation, inspiration, and benevolence. It would bring to an end all missionary effort, both at home and abroad, and roll back upon the world the darkness of ignorance, superstition, and idolatry. It would extinguish the living light of that truth which Jesus

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came to the world to proclaim, and blot out from among us that great central institution which has made and molded the best things in our social and national life.

. . . . . .

But further, here, this injunction is to be obeyed by the character which we form. Repeatedly have I said in your hearing what I will say now again—for it never can be said too often—that character is the most important thing in the world. It is not what a man knows, or what a man says, or what a man has, that counts us before God, but only what a man is. The great questions are these: Is his conscience illuminated by God's truth and rectified by God's Spirit? and is he trying faithfully and courageously, day by day, to act according to its dictates? A man is what he is in his heart, for sooner or later that reveals itself; and if his heart be right with God, his face will shine with a radiance akin to that which glistened on the face of Moses as he came down from the Mount. Thus the influence that a man exerts depends on his character, even as the fragrance of a flower depends on its nature or the fruit of a tree on its kind. Now, we can not help having an influence any more than we can help our bodies casting a shadow when we stand in the sunlight. And all the time we are affecting, for good or evil, those who are round about us.

We may be as unconscious of this as we are of the shadow that follows us; but there is that exhaling from us continually which is moving some one toward Christ or driving him further away. "None of us liveth unto himself." Somewhere there is one who is forming himself after us, and is like the prepared plate of the photographer, taking from us an impression that is accurate and shall be indelible. We are being repeated and reproduced in those who are around us; and so, if we would have our existence tell for blessing and not for blasting, for good and not for evil, we must look well to our speech, conduct, temper, disposition, everything, in short, through which the inner may become the outer, and see to have it after Christ. If we would make sure that the effluence that is passing always unconsciously from us shall be of the right sort, we must give special attention to that which is matter of consciousness within us. In vain shall we attempt to regulate the speech, the conduct, the temper, by watching them alone. We must give our first and constant attention to the heart, and by keeping that aright, by continuous prayerful diligence, we shall succeed in getting all the issues of life that flow out of it pure and wholesome. Attend to the character, and the influence will take care of itself.

YELLOW-HAIRED PEOPLE.

THE ancient Jews were mainly a dark-haired people, but the blonde type was by no means without its Israelitish representatives, among whom Christ and the Madonna should undoubtedly be classed. The ethnological bearings of this fact suggest an interesting subject of inquiry, but it is not my purpose to pursue it here. In whatever way the blonde element was introduced into a race of *melanic* type, it seems fitting, in view of the physical and mental characteristics symbolized therein, that its grand culmination in Him whose mission was to break down the barriers of race and caste and establish a universal Church, should come through that branch.

With the mass of His countrymen, the flowing fair hair of Jesus of Nazareth was far from being a recommendation, for they esteemed black hair the most desirable and beautiful.

Fair hair, and particularly that of a yellow or golden color, has, however, had its admirers in all ages and among all Caucasian races. Those wonderful pagans, the art-loving Greeks, considered it more beautiful than any other, and the most exalted of their mythological personages are described as being adorned with it.

The hair of Helen of Troy, it may be remembered by the classical scholar, is said to have been golden; and of Milto, the

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beautiful Ionian, we are told that "the hair was yellow, the locks a little curled." Popæa Sabina also had golden tresses, as had Lucrezia Borgia, according to Leigh Hunt, who was in possession of a single hair of that famous woman's head, presented to him by Lord Byron, who obtained it from a lock of her hair preserved in the Ambrosian library at Milan. As her portraits show that her hair was long and abundant, its auriferous sheen must have been something magnificent.

In view of the generally accepted character and history of Lucrezia Borgia, the physiognomist is led to doubt either the hair or the history. Was she the monster she has been represented to have been? and if so, could her hair have been naturally golden? The historical question involved has been frequently and ably discussed, and Lucrezia has not lacked defenders and even eulogists. The greater part of her life, at least, appears, in wicked times and wicked places, to have been passed in all outward decorum, decency, and dignity. Her personal beauty and her moral character have both gained something with posterity by her generous patronage of literature, and especially of poetry and of painting. If existing portraits of her can be trusted, however, we may be permitted to entertain grave doubts in regard to the naturalness of the golden tint in her hair. In the first place, her eyes are represented as black and piercing. The combination of such eyes with golden hair, though not impossible, is extremely rare, and where it exists it indicates an influential mingling of the *melanic* element in the constitution. The features in this case point to the same type.

That the women of Lucrezia Borgia's time possessed the art of changing dark hair to a fair or golden tint, is well established, and in the picture galleries all the celebrated Italian women of the middle ages are represented with the half-flaxen, half-golden hair which the painters gave to their Venuses and other ideal beauties. The chemical process by means of which the coveted golden was produced may, I suppose, be counted among the lost arts, though lately perhaps recovered; for we were told a few years ago, in the daily papers, that a certain popular actress, well remembered as having had brown hair, had returned from Europe with beautiful golden, blonde tresses.

Mrs. Jameson says: "Every one must remember, in the Venetian pictures, not only the peculiar luxuriance, but the peculiar color of the hair—of every golden tint, from a rich, full shade of auburn to a sort of yellow-flaxen hue, or rather not flaxen, but like raw silk. I have often been asked if these pale, golden masses of hair could always have been natural. On the contrary, they were often artificial." We have also the testimony of Tertullian of Carthage, one of the fathers of the Christian Church, who reproves some of his black-haired countrywomen for "being constantly employed in giving their hair a fair color." Two centuries later, we are told, the custom of dyeing the hair *red* prevailed extensively. We have changed that, in these latter days, and our red-haired people often dye their fiery locks brown or black.

The facts I have noted should render us cautious in our delineations of character, in classic and middle age subjects from the color of the hair.

History has, unfortunately, often failed to take note of the hair of celebrated men and women, but Alexander the Great, Demetrius of Macedon, Sylla the dictator, Augustus, Commodus, Boadicea, Eudocia (the empress, queen of Theodocius the younger), Robert Bruce, Camoens, Tasso, and Alfieri are said to have had yellow hair. Mary, Queen of Scots, had yellow hair in childhood, but it grew to a dark auburn in womanhood. Later in life, she often wore false locks of yellow or red. Cervantes, the Spanish poet, had a yellow beard, but his hair was brown.

Nearly all the foregoing celebrities were probably true blondes. Of Alexander, Arrian, who is always accurate and faithful, and who had before him the writings of Ptolemy and Aristobulus, tells us that he was "most beautiful in person," and Solinas adds that his cheeks were gracefully ruddy. His temperament was doubtless a well-balanced one, and his character combined great ambition, courage, sagacity, energy,

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and executive ability with considerable delicacy and refinement, and a taste for art and literature, of both of which he was a judicious patron. He delighted in splendor and magnificence and seems to have been vain of his beauty and of his grandeur. His great vice—the vice of his country and time—was intemperance.

Alexander was fortunate on the side of both father and mother, and he seems to have inherited the great and good points of both, with only a moderate share of their vices. His mother, Olympias, was noted for her abilities and her wit, as well as for her beauty, and was, at the same time, intolerably proud and arrogant. All the coins and medals represent Alexander as bearing a striking resemblance to Olympias, who had, "in addition to a fine double chin," the large, open eye, full face, Greek nose and exquisitely chiselled mouth, so notable in the likeness of her son.

Demetrius of Macedon is said to have been so beautiful that "no painter or sculptor could do justice to the mingled grace and dignity of his face and form," with which also his manners and conversation admirably harmonized; but as, according to Ælian, he "used pigments to heighten his color;" being naturally pale, it is not unlikely that he dyed his hair yellow.

But in Demetrius were united with effeminacy and voluptuousness great courage, energy, and sagacity, a combination by no means so uncommon as might be supposed. Otho, the Roman Emperor, was one of the most perfect examples of this seemingly inconsistent mixture. Another was Surena, the Parthian General, who conducted the war against the Romans, and was, according to Plutarch, "the tallest and most beautiful man of his time among the Parthians." Though always the foremost in the fight, his beauty was distinctly of a feminine style, and he painted his face and parted his hair in the middle, after the luxurious fashion of the Medes. He carried with him in all his marches "a train of the most beautiful Parthian women, with whom he spent his nights in singing and dancing."

Besides the coloring of the hair by a chemical process, already alluded to, the ancients sometimes resorted, for temporary effect, to the easier mechanical mode of securing the desired golden hue by sprinkling it with gold dust. It was probably to this that the "yellow and crisped hair" of the wicked Emperor Commodus owed its brilliant sheen, for "when he walked in the sun," the historian tells us, "his locks glittered like fire."

In the case of the pink-and-white complexioned and blue-eyed Sylla, the golden hair was undoubtedly natural. When the soothsayers—so Plutarch says—announced that Rome was to be saved by a man of superior beauty and courage, Sylla declared that it could be no other than himself, his golden hair being sufficient proof of his beauty and his previous achievements leaving no question of his courage. His ambition and his position drove him to many crimes, but Plutarch seems to be right in believing that he was not naturally cruel, and that he possessed a large measure of that delicacy, taste, and refinement which we are accustomed to associate with his complexion and temperament.

In the weak, but studious, elegant, and refined Octavius Augustus, we have another true blonde, with "yellowish hair, slightly curled," and bright blue eyes. "In all his person," the historian says, "he was beautiful, but particularly so in his eyes. He darted their light like the brightest stars, and was willing that others, looking at him, should be struck by his glance, as by the brightness of the sun." It is related that a soldier, having turned away from him, on being asked by the Emperor why he did so, replied, "Because I can not bear the lightning of your eyes." That compliment should have secured rapid promotion!

It was Augustus who "caused his too famous daughter, Julia, and his nieces, Julia and Agrippina, to be taught spinning," believing industrious habits to be promotive of virtue; the chaste Lucretia having been a housekeeper and a spinner, according to the eulogium inscribed on her tomb. Nevertheless, the two Julias and Agrippina, in spite of their lessons on the distaff, became the most abandoned women of Rome. The profligacy of the Julias was quoted in later

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times in confirmation of the silly belief that women of that name are necessarily unchaste.

Of the yellow-haired Boadicea, a British Queen in the days of Nero, we have only the accounts furnished by Roman historians, who gathered the description of her person and the story of the terrible vengeance she took on their countrymen from Romans who were in the invading army. Dion Cassius says, "She was of gigantic stature, of a beautiful figure, a terrible aspect, a sharp voice, and yellow hair which fell down to her thighs," on the whole, not a particularly pleasing portrait.

Gibbon's pen-picture of Athenais, afterward the Empress Eudocia, is sketched with a few masterly touches. "She had," he says, "large eyes, a well-proportioned nose, a fair complexion, golden locks, a slender person, a graceful demeanor, an understanding improved by study, and a virtue tried by distress."

The Emperor Theodosius first beheld this rare beauty from behind a curtain, where he had been concealed by his designing sister, Pulcheria, and he, as was anticipated, fell in love with her, though she was then "a pagan Greek." On her part, she forsook her pagan faith and became a pious, Christian Empress.

Eudocia delighted in elegance and splendor, loved gold and gems, had a taste for literature and art, and manifested in many ways the mental activity, versatility, amiability, and love of luxury and good living, characteristic of the conformation and temperament predominating in the blonde type.

Perhaps the noblest of all the golden-haired blondes of whom history makes mention, was Robert Bruce, the greatest of the Scottish kings. He is described as "of a fair, graceful, and active body, with broad shoulders and a beautiful countenance; his hair, after the fashion of the Northerners, being yellow, and his eyes blue and sparkling." His coins represent him with his hair long and curling.

In the character of Robert Bruce there seems to have been a most harmonious blending of vigor, courage, shrewdness, refinement, and delicacy. "With all his heroism as a warrior and his wisdom as a politician, he could never have done what he did, if he had not added to his heroism and his wisdom the rarest patience in affliction and the most unwavering reliance on Providence. What he really achieved and how he achieved it make his genuine history like the richest treasures of romance." He was, as his recorded sayings prove, a man of poetical taste, and of a gentle and graceful wit, winning the favor of women by those softer parts of conversation which please princess and peasant-girl alike; and it was a woman who, in the midst of dangers and difficulties which no less nobly-endowed man would have successfully met, with her own hands placed the crown on his head.

Light hair and beard are not common among the Spaniards, but even that swarthy people are not free from the light-complexioned Gothic element, and the immortal author of "Don Quixote" describes himself as having "an oval face, hair of a chestnut color, a smooth forehead, a crooked nose, silvery beard, once golden, large moustache, small mouth, and a complexion rather fair than brown. Camoens, Tasso, and Alfieri, all natives of the south of Europe, were also yellow-haired poets.

I have indicated, incidentally, the mental and moral traits which the physiognomist expects to find associated with fair or yellow hair, when combined with the blue eyes and fair complexion which generally go with it. Persons thus characterized should be amiable in their disposition, refined in their tastes, highly susceptible of improvement, and mentally active and versatile. When, as is sometimes the case, the fair or golden hair is accompanied by dark eyes and other indications of an influential mixture of the dark element, the character will be correspondingly modified. D. H. JACQUES.

WOMAN AS A FINANCIER.—The imputation that woman knows only enough about money to spend it, is refuted by the fact that several ladies now occupy responsible positions in banking and mercantile houses, and are accredited with superior ability as financiers. The *Bankers' Magazine* states that—

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"Miss Frank McGrew has been appointed assistant cashier of the First National Bank of Huntington, Indiana. There are two other instances of female bank officers recorded: Miss Bella Wallace is cashier for Watson, Huber & Co., bankers, Mechanicsville, Iowa; and Miss Annie M. King for A. W. Naylor's bank, New Sharon, Iowa

"The First National Bank of Huntington was the first one to grace its Board of Directors with the presence of a lady, Mrs. Anna A. Daily having been elected director in 1868, and Mrs. E. J. Purviance in 1873. Of the First National Bank of Peoria, Illinois, Mrs. Lydia Bradley was elected director in 1875, and in the First National Bank of Canton, Ohio, Mrs. Louisa McCall is one of the Board. In some of these cases the limited number of stockholders left no alternative, while the advantage of superior business qualifications has also led to the choice.

"The banking business of A. K. & E. B. Yount, at Fort Collins, Colorado, has for some time been conducted by Mrs. E. B. Yount, the junior partner, who is said to be a lady of rare sagacity and experience in monetary affairs."



Fig. 1.—Sophronitis Grandiflora.

ORCHIDS---CHARACTERISTICS AND CULTURE.

'And few of that most curious race,
Or those that rival them in grace,
Perhaps exceed; the orphrys kind
In the advancing season joined,
Stamp'd with their insect imagery
Gnat, fly, and butterfly and bee,
To lure us in pursuit to rove,
Through winding coombe, through shady grove."
Bishop Mant.

THE *orchidaceæ*, named from their typical genus orchis, which was the ancient name of the race, are among the most singular and interesting plants which are to be found in either hemisphere. Like the humming-birds, they would seem to find their sweet excuse for being, in their own loveliness, and, like them, they display, in their singular and varied forms, that delightful caprice of fancy, in which Nature seems to combine color and form with a kind of playful sportiveness, resulting in a strange union of the delicate and the grotesque, which has the greater charm, that it is rarely indulged in.

The family of orchids is divided into the epiphytal and the terrestrial.

The first inhabit the regions of the tropics; the second are found scattered over all parts of the globe, from the equator to Siberia. Of the latter, England boasts some of the most beautiful, while others are found in the northern part of our own country; but it is in Mexican and Central American forests that the most elegant epiphytes or aerial orchids find their abiding-place. The native name signifies "beautiful things without foundation." They delight in the humid, sultry heat; perching upon the boughs of

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lofty trees, and blooming in richest splendor among the impenetrable shades, where they are visited only by the insects upon whom their very existence depends; and the humming-birds who revel in the nectar of their cups.

The form of their flowers, their manner of growth, and their strange choice of dwelling places, render them not only striking, but unique; and when one becomes at all familiar with their peculiarities, any plant belonging either to the aerial or to the terrestrial branches of the family, will be readily recognized. It is believed that though 3,000 species are known, many remain yet undiscovered, for they resemble their friends, the humming-birds, in this also, that peculiar species inhabit a limited area; sometimes one of only a few miles in extent. Not only are they different from all other plants, but strikingly so from each other; and though the family characteristics are marked and striking in them all, the species differ widely, some throwing up tall and graceful spikes of flowers far into the air; others being of dwarf habit, and bearing their brilliant blossoms, as in the engraving of Sophronitis grandiflora (see first illustration), upon stems so short that they almost touch the roots.

In some, a single blossom is borne upon an upright stem; in others the flowers are disposed in drooping panicles whose light blossoms sway and tremble in the faintest breath of air.



Fig. 2.—Orchid—Manner of Growth.

One of the most singular peculiarities possessed by the race, is their strange mimicry of animal life. In some cases this resemblance is so strong that the most careless observer readily perceives it; in others it requires some imagination. Still, when the flower is closely examined, the image is usually recognized. These figures generally are composed of the central parts of the flower, and the lower petal called the lip. The whole structure is unlike that of ordinary plants. The scape or flower stem rises

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immediately from the root, amid a cluster of tubers, each of which forms the base of a leaf stalk; being, indeed, only the base expanded. Fig. 12 gives an example of them. Such tubers, called pseudo bulbs, are pear-shaped bodies, much resembling the bulb of a crocus, or a tulip, but often displaying upon their surface raised ridges which are longitudinal and converge toward the top, where they terminate sometimes in a circular ring, which incloses the stem, and are sometimes lost in its smooth surface. Large clusters of these bulbs are found upon the branches of trees, their slight roots being imbedded in moss clinging to its outer bark; and, from below, they have a strange appearance, ornamented as they are by nodding plumes of brilliant blossoms.

The flowers are remarkably irregular in form, composed of three divisions, and these of three parts each; the calyx, represented by three sepals; the corolla, by three petals; and the column uniting the anther, pistil, and stamens. The pollen-masses are contained within the cavities or pockets of the anther. We find it impossible to give examples of more than a few of the innumerable forms which this union takes on, but it is hoped that those furnished give a clear idea of the type. The pollen-masses are curious little pear-shaped bundles of fine grains of pollen bound together with elastic threads (fig. 3), the whole being supported upon a minute stalk, ending in an oval membranous disc (fig. 4), the under side of which is covered with a thick, viscous secretion, which exudes from a small gland, and which quickly sets, and becomes hard upon exposure to the air. The use of this appears in examining the manner of the fertilization of the flowers. In some flowers the lateral sepals assume the form of petals, and are often re-curved, and give the flower the appearance of being winged; the upper one frequently unites with lateral petals in forming a hood. Of the petals, the lower, the *labellum* or lip, is usually elongated beyond the other two, and forms the most striking as well as the most beautiful feature of the flower; it sometimes swells into a bag or sack, which is exquisitely marked and spotted within, while the outer surface presents an appearance similar to the wrong side of a piece of figured silk. Sometimes it broadens into a pendant, tongue-shaped appendage, at others into a gracefully curved shell.

In attempting to give a general description of this interesting group, a difficulty

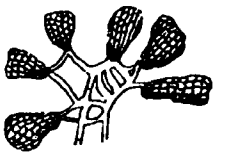


Fig. 3.—Pollen, showing Elastic Threads.



Fig. 4.—Pollen with Disc.

presents itself, in the endless variations of the same essential construction, which the unpracticed observer might easily mistake as belonging to an entirely different order of plants; and even botanists lay stress upon different distinguishing characteristics.

If it be asserted that orchid flowers are conspicuously irregular, immediately the statement is contradicted by a species in which the blossoms are as regular as those of a lily or a rose. If it be said that they are distinguished by the production of pseudo bulbs, the rash statement may be confronted with the portrait of one which, though a true orchid, produces none. One of the leading distinctions, the exaggerated size of the lip,

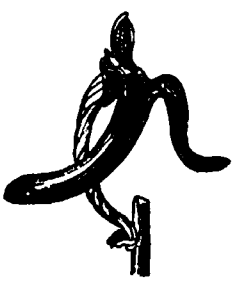


Fig. 5.—A Nectary partly cut away.

is sometimes entirely wanting, and yet the form is irregular, in consequence of the enlargement in size being transferred to the upper sepals or the lateral petals. One characteristic, however, may be said to apply to the race. It is found in the union of the reproductive organs, as was said before, into what is called the column. This column forms a striking feature in the appearance

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of the blossom, and plays an important part in the fancied mimicry of animal life. In most of the orchids all the anthers are suppressed except one; in the Cypripedia, all except two. The pollen-masses are commonly waxy, adherent granules, yet in some



Fig. 6.—Proboscis of Insect with Seven Pairs of Pollen-masses.

species they assume the appearance of the ordinary powdery pollen seen on other flowers. The more we study their character and habits, the more we are convinced that orchids are genuine Bohemians, a law unto themselves.

If, leaving the blossoms, we turn to the foliage, we find the same eccentricities and the same diversity. Generally deciduous, there are evergreen varieties of great beauty. In some species the leaves are short, broad, fleshy, and upright; in others, long, narrow, and drooping; occasionally, cylindrical and persistent, not thicker than a whip-cord. The growth of the plants is slow, and, until within the last ten years, they have been considered difficult of culture, but since more attention has been directed to the study of their habits and requirements, the culture has become more popular; and, it is even urged, may become profitable.



Fig. 7.—Head of Moth, with Pollen-masses attached to the eyes.

It is believed by scientific men, more especially since the publication of Mr. Darwin's elaborate work upon the fertilization of orchids, that the great reason of want of success in the culture has been the want of knowledge. His observations and those of others have led to the conclusion that nearly all of these plants depend upon the cross fertilization effected by insects. Our very limited space permits us only to give an outline of his theory, which, indeed, is that now generally adopted. It is, that every species



Fig. 8.—Pollen-mass in first position.



Fig. 9.—Pollen-mass after changing position.

presents attractions to peculiar species of insects, and the flower of each is so constructed as to make it inevitable that by its entry and egress the body of the insect shall dislodge the pollen-masses from the anther of one flower, and deposit them upon the viscous surface of the stigma of another. In order that this may be effected, the base of the labellum (the lower petal) is extended into a nectary, the luscious contents of which allure the insect to enter the flower; and



Fig. 10.—Orchis Muscifera. (Fly Orchid.)

Fig. 11.—Orchis Aranifera. (Spider Orchid.)

this measure of sweet wine is proportioned to the Bacchanalian tastes of the frequenters of the cup. With some, it would seem that the draught must be deep, for a flower exists with a nectary so long that, until of late.

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there was no insect known with a proboscis long enough to reach it. Now, however, the individual for whom the cup was prepared, has been discovered.

The *orchis pyramidalis* is supposed to attract moths by day by its vivid coloring; by night by its peculiar odor, and moths have been taken with its pollinia attached to the head and proboscis. One is represented with the pollinia in pairs attached. These pollinia adhere to the proboscis or to the head of an insect, by the viscous disc (figs. 6 and 7),

An illustration of this curious process is found in the cuts showing the pollen-masses attached to a pencil. When the insect enters the second flower, the pollen-masses are liable to be detached by adherence to the viscous surface of the pistil, which thus becomes fertilized. Artificial cross fertilization may be, and is resorted to, in cultivating orchids in the green-house, as, of course, they can not there be reached by their usual visitants. It would be well if they were not accessible either to their *enemies* of the in-



Fig. 12.—Sarcopodium Macranthum, showing the pseudo bulbs.

but in the position in which they are withdrawn from the anther, they could not be introduced into another flower. Nature provides for this dilemma. When the viscous matter has set, and the disc is firm in its place, the caudicle or stem of the pollen-mass begins to move, and in about half a minute the mass itself has passed through an angle of forty-five degrees, and assumed a position parallel with the line of the proboscis. The time taken to effect the change is so short that it must be generally completed before the insect has reached another flower.

sect tribes, of which they have very many. Cockroaches are the most dangerous, as they feast upon the tender roots and young bulbs voraciously. The limits of this article forbid even the briefest description of the intricate and ingenious devices of nature to provide for the fertilization of the blossoms through the agency of insects. It must suffice to say that cross fertilization is the rule, self-fertilization the exception, though Mr. Darwin has found, as he confesses, greatly to his perplexity, that some flowers of this order are provided completely for either method.

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If the reader be at all interested, he will wish to see an example of the mimic insects formed by the flower. The fly, spider, and bee orchids are British terrestrial varieties, and are considered to present close resemblances to the insects whose name they take. Figures of the two former are given (figs. 10 and 11), but it is impossible, without the aid of color, to convey a really true idea of how close that resemblance is. One of the most beautiful and perfect instances of this kind is the 'Flower of the Holy Spirit," a Mexican orchid, which the writer has had the pleasure of examining. It is remarkably regular in outward form; the petals and sepals being nearly alike, but a perfect dove of purest white is formed by the column, which appears about to fly from its beautiful home. These exquisite plants may be raised either from the seed or the bulbs. The seeds are produced in small capsules, and are very numerous. A single plant of *Cephalanthera* grandiflora has been known to bear 24,000, carefully estimated. The *orchis maculata*, 186,300. It is estimated that if all these seed germinated, the offspring of a single plant would, in three generations, carpet the globe. And yet, orchids are by no means common anywhere, and the brilliant varieties exceedingly rare. We may see from this, that comparatively very few seeds germinate at all, and that much the most reliable method of propagation is by separating the bulbs.

The rule for their treatment should be to conform to their original habits. Most epiphytal orchids require the heat of the "stove" of the hot-house, but many varieties may be cultivated with success in the parlor. When the plant is growing, it should be kept moist, but not wet; when the season of growth is past it requires to be placed in a cooler atmosphere, and be allowed to be almost entirely dry.

The epiphytes are bound upon wood or cork, a little sphagnum moss placed about their roots, with wire, and suspended where they will be kept moderately warm until they have taken root. Of success in potting, the conditions are perfect drainage, a soil at once light and warm, and closest care and attention. Ladies who love to adorn their rooms with beautiful things, will hardly judge the latter wasted, if rewarded, as they may be, by success, for no more elegant ornament can be found than this curious plant, with its pendant panicles and strange clusters of leaves and bulbs.

C. S. NOURSE.

PRIMAVERA.

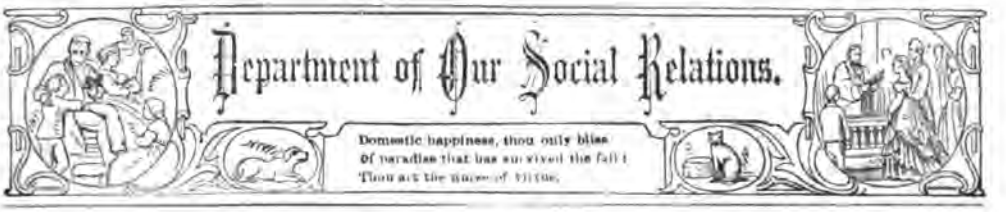
The spring has passed this way. Look! where she trod,
The daring crocus sprang up through the sod
To greet her coming with glad heedlessness,
Scarce waiting to put on its leafy dress,
But bright and bold in its brave nakedness.
And further on—mark!—on this gentle rise
She must have paused, for frail anemones
Are trembling to the wind, couched low among
These fresh green grasses, that so lush have sprung
O'er the hid runnel, that with tinkling tongue
Babbles its secret troubles. Here she stopped
A longer while, and on this grassy sweep,
While pensively she lingered, see! she dropped
This knot of love-sick violets from her breast,
Which, as she threw them down, she must have kissed,
For still the fragrance of her breath they keep.
And look! here too her floating robes have brushed,
Where suddenly these almond-branches flushed
To greet her, and in blossoms burst as she
Swept by them—gladsomely and gracefully.

Where is she now? Gone! Vain it were to try
To overtake her. Here, then, let us lie
On this green bank and weave a wreath, and sing
From our full hearts the joyous praise of spring,
Grateful for these dear gifts she left behind—
The flowers, the grass, the soft and odorous wind,
The lingering affluence, the subtle grace
That still, though she has vanished, haunts the place.

Pursuit is vain; for she, like all things fair,
Will not be hunted down into her lair,
And caught and prisoned. Let us not be rude,
Nor seek into her presence to intrude,
But praise her in the distance. Then, perchance,
She may not flee away with wingèd feet,
But pause and backward cast a favoring glance,
And waft a fragrance to us rare and sweet.
Too eager, we our present joy may miss
In the vain chase of an imagined bliss;
The ideal joy no human hand can seize,
The dream that lures us and before us flees.

W. W. S.

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PERSONAL GLOOMS AND GRIEFS.

A WORD with you, disheartened fellow-worker, upon whom, not unfrequently, drops the black, unwelcome cloud of tired, discouraged moods in which you utter yourself unconsciously in that bitter, soul-sick cry of Hamlet—

> "O, that this too, too solid flesh would melt,
> Thaw, and resolve itself into a dew;
> Or, that the Everlasting had not fixed
> His canon 'gainst self-slaughter, O God! O God!
> How weary, stale, flat, and unprofitable
> Seem to me all the uses of this world!"

In these wretched, despairing seasons, if there be anything at all worth living and striving for, you fail absolutely to discern it. Just simply to creep out of life and be forever rid of its burden of perplexities, its torture of hope deferred, its wearing weariness of unsatisfied longing—this, you feel, is all that you could ask or wish.

And while you sit in the vaporing shadow of these evil and unhappy humors, it is vain to look for any philosophical reflection, or profound utterance of wisdom and experience to touch you with any gleam of light or tender warmth of comfort; not until the overhanging cloud, rent by force of its own weight, scatters to the unknown realms of darkness whence it came, will you be able to take once more a rational view of life, and return with renewed hope and energy to the tasks that had fallen unfinished from your discouraged or impatient hands.

But, did you never think, when you pass again into the glad, cheerful light of day, and rejoice anew in the consciousness of strength, in the dignity of purpose, and in the boldness of faith; did you never think how far it was possible to have avoided that depression and waste of vital force which so crippled your power, and impeded the progress of your work? Did it ever occur to you that the gloomy influence which always seems to leap upon you from some mysterious outer world of darkness, might, perhaps, have its source in yourself and be, therefore, subject, in a greater or less degree, to your control?

Did you ever seek to trace these sad, sullen dissatisfactions with life back to the point from which their mildew and shadow first began to creep upon you, spreading and spreading until the "cloud no bigger than a man's hand" covered all heaven and hid all hope from your view? And did you find—if ever you sought it there—the secret cause of your despondency and despair in the disordered action of some spiritual faculty, not equally balanced, or not properly disciplined? How often, perhaps, has the whole sky of life been darkened by a thoughtless word or careless act which a morbid and monstrous self-love has unconsciously magnified and dwelt upon until the circumstance has assumed a significance out of all proportion to its character and relation, and is itself swallowed up at last in the yawning gulf of blackness and horror which it had innocently opened.

Or, how often again, an inordinate development of that quality of mind which phrenologists term Approbativeness, floods the whole soul with the bitter waters of anguish at the withholding of some coveted expression of praise—some ardently-desired and confidently-expected token of encouragement and appreciation. Or, how frequently it may happen that a diseased, perverted, and unenlightened conscientiousness will rack its unhappy possessor with the tortures of the damned, by a rigid and inexorable rule of exaction to which the infinity of human diversities can not be made to conform, and which to the narrow and prejudiced intellect suggests an awful and

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irretainable state of wrong that must ultimately plunge every erring soul of us down to the bottomless pit of hell.

Or, how possible, perchance, a preponderance of that most admirable virtue which we name constancy, devotion, singleness of purpose, when unregulated by the reasoning powers, may, at the overthrow and failure of its cherished object, work disaster to the whole mental and moral being, whose foundations are broken up, and to whose vision the order and light of the universe seem tottering with chaos and the blackness of night.

Or, how easily again, a marked deficiency of the organ of Hope may give a sad distortion to every event of life, and cast the gloom of fear and the shadow of doubt over fair possibilities which may never be realized because never attempted.

And what, when we consider the matter from a rational standpoint, what, after all, do these desponding moods of ours indicate? Is it something radically, totally, and deplorably wrong in conditions outside of ourselves, and for which we are in nowise responsible? Or, is it not rather some unacknowledged, unperceived evil *within* ourselves which it is our business to trace out, and our duty to remedy?

This deep, unutterable sadness and dejection of spirits, my friend, may seem to you the consequence of an unhappy conjunction of circumstances over which you have no control, but if you analyze the case closely you may find the real source of trouble in some defect of character, which the peculiar trial and aggravation, that you first esteemed a cause, simply and clearly points out to you with finger of warning and wordless eloquence of admonition. The external evil unquestionably exists, but not to make you wretched. If you have that harmonious development of faculties, that perfect balance of mental conditions which is the aim and end of all self-culture, the wrong and discord that reign among outside forces appeal to you simply as an instrument and exponent of Divine power, for correction and harmonization. You, believing in the infinite and eternal nature and power of good, can not be overcome or disconcerted by the limited and temporary rule of evil, unless there be some unsoundness, some lack of poise, some irregularity or morbidness of action in your spiritual or physical organism. With a reasonable faith in God, and every function of body and mind in fair, healthy play, despair and melancholy can not be counted among human possibilities. When, therefore, this desperately wicked world seems to be rushing headlong on its downward course to destruction and perdition, and you nowhere perceive the merciful hand of the Sovereign Ruler outstretched to restrain and save, might it not be wise, before you break into lamentations and reproaches, to consider in how far the sad state of things which you deplore may be the figment of a disordered mind, resulting from a persistent violation of nature's laws. It would be, to say the least, a little ungracious and ungenerous to shoulder upon the Divine Lover of the world the responsibility of wrongs which are perhaps, in a greater or less degree, the horrible illusions of indigestion.

Not less unreasonable and unworthy the dignity of true manhood and womanhood is the whining supplication, falsely called prayer, that the evils so perceived and so induced may be remitted and removed by some plan of vicarious atonement that shall require not action, but only simple supine acceptance on the part of the petitioner, as though the immutable laws of life could be heedlessly transgressed and the effects of the transgression mitigated by craven entreaties or by any make-shift or expedient short of absolute, unfaltering, uncompromising return to the ways of obedience. No brave, honest, self-respecting, God-revering soul wails and weeps and groans and prays over the multitude of human ills, but, accepting its position as an intelligent agent of Divine power, philosophically investigates the causes of evil, wisely considers the remedy, and heroically endeavors to accomplish its appointed work in the establishment of that universal reign of good in which it devoutly believes.

I do not say that at the highest perfection of life and character there may not be seasons when the barometer of Hope will fall

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from the mere pressure of outside atmospheres, and it will seem as if God had forgotten and forsaken the world; but in that superior region of sense from which we are momentarily deposed, we are all the time conscious that this most unhappy condition of things is but the phantasy of a morbid mood, and while we are under its gloomy reign we may, at least, restrain ourselves from the utterance of a word that could dishearten or discourage any fellow mortal who has his own unknown burden of glooms and griefs to bear.

ANNIE L. MUZZEY.

PEACEMAKER GRANGE.

"The age culls simples;
With a broad clown's back turned broadly to the
Glory of the stars."—*Mrs. Browning.*

CHAPTER XVI.

"OUT ON THE OCEAN SAILING."

THANKSGIVING DAY had arrived. There were so many in the Society with whom this had been a great festival in their youth that it was usually thoroughly celebrated. On this occasion a coastwise yachting excursion, in the swift schooner belonging to the Peacemakers, was a part of the festivity. This vessel is not a mere pleasure boat, but is used for freight a large part of the time; though by a little re-adjustment it can be fitted to accommodate a large party of voyagers very comfortably. On this occasion about thirty started for a two-days' cruise and fishing along the coast of the great bay into which the rivers pour that border on the domain. A trip into the ocean was included.

The vessel lay at the mouth of the river, and the tourists were carried thither on the steamer *New South*. The party contained most of the persons already introduced to the reader. Anthony and Reynolds were quite at home when they reached the schooner, as they had been used to sailing boats in New York harbor. They examined all the appointments with critical eyes, and pronounced the boat first-class.

The *New South* had left Mid Haven at five in the morning, and it was still quite early in the day when the anchor of the schooner was weighed and the sails hoisted.

There had been some frosty nights after the Indian summer, but again the weather was quite mild.

The misses Edith and Alice had a twinkle in their eyes that showed they anticipated "fun alive;" but they were very demure and decorous and touch-me-not in their manner. They were to be at very close quarters with their admirers for two days, and must not be too familiar.

They had been in the habit of taunting the New Yorkers concerning their effeminacy and "lily-white hands," until Reynolds had got his face tanned to a copper color, and his hands calloused (after many blisters) like those of a blacksmith.

Anthony did not care, and only scoffed in return.

Edith secretly admired him for this independence, but maintained her raillery. She was often as sarcastic toward him as was Beatrice to Benedict.

Alice, being of a simpler mind, was also quite pleased and flattered by the ready assumption of the tawny hue by her gallant.

So all four were satisfied.

The schooner passed swiftly along the picturesque shore,

"As with dew and sunshine fed
Came the laughing morning wind."

There were some on board who had never beheld the ocean; and it was resolved to take a stretch to the widest part of the bay and even pass out beyond the capes into the veritable sea. It was generally resolved that a little sea-sickness would be risked rather than the sight of the ocean should be missed.

An easterly storm had prevailed, and the majestic rollers were coming in with a long sweep that made the motion of the vessel

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decidedly undulating, but did not retard its progress, as small waves would have done.

Human creatures who are not used to the sight of the sea are abashed by its majesty and their own littleness.

They also incline to draw close to each other, and recognize their great interdependence.

Women at such times feel very viny and twiny.

Men, if they are plucky, feel an intense desire at such times to protect and preserve the women whom they love or respect or admire.

There is no better place to foster budding love than on a small vessel floating on ocean surges, especially if the latter have their white caps on, and the ladies of the party are also tastefully dressed.

Edgar and Herman thought, as the latter said to the former, that Edith and Alice looked "nice enough to eat," as they sat leaning against the taffrail near the helmsman, wrapped in their warm and gay Rob-Roy shawls.

They were chatting merrily, and throwing bits of bread to the sea-gulls that followed in the wake of the schooner.

They did not care for men folks—not they. They were too busy—the minxes.

Also the torments.

Herman's eyes often strayed in that direction. Edgar looked casually that way when he wanted to "see the sea," toward which they were driving, as he sat between them and the stern.

So far no one was sea-sick. It was determined to seek the shelter of one of the capes that would cut off the westward bounding billows, if there should be serious sickness. The excellent precautions taken as to diet, etc., prevented anything more than occasional qualms in all but one young fellow, who slunk away abashed into the forecastle, where he saw the ladies bearing up while he was heaving up.

The attraction of the Rob-Roy shawls and their precious contents became at last too great to resist: especially since little screams came now occasionally from the contents, when an extra impertinent white-capped "swell of the sea" reached up nearly to their fair faces.

"You seem to be looking a little pale, Miss Alice," said Reynolds, with evident solicitude.

"Oh, never fear, we took particular care that all the ladies of the party should be old salts. Many a time and oft have I been for days on the ocean in this boat. I would undertake to 'man' it from the ladies on board and take it home again in safety. There is no sea-sickness to be feared, except among some of our young men."

Just here a huge wave broke against the weather bow, and sent a sheet of spray clear aft. All saw the heavy douche coming and sprang up to avoid it. Reynolds fell back against his friend Anthony. Edith sprang upon the cabin; but poor Alice got the full force of the shower-bath. Her hair, which was flowing free, was soaked with salt water, as was also her Rob-Roy shawl.

In an instant Reynolds was on his feet; his overcoat was off and cast about her shoulders. He led her laughing and scolding down into the cabin.

As she passed the helmsman, she shook her little fist at him saying, "You rogue, I saw you. You luffed up into that roller on purpose."

He indignantly denied the accusation.

To this day she disbelieves him.

Perhaps he intended to cool her flame.

He was jealous.

Edith soon had Alice re-dressed and out again on deck. Her long hair was spread bewitchingly on her back and shoulders and bosom.

The Judge came out from the cabin now, where he had been reading.

"There is no occasion to fear another storm soon again," he said, scanning the horizon, and looking weatherwise. Then he fell to talking with Anthony.

"I have been thinking much since I have been with you," said the latter, "of the growing tendency in the Episcopal Church toward the establishment of sisterhoods and brotherhoods, for the physical as well as the spiritual care of the people."

"Yes," said the Judge. "The Episcopalians, being more nearly allied to the Ro-

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manists than any other sect, are naturally led to contrast their own work and its results with that of Roman Catholics. They see that the Roman Church has some elements of practical usefulness that are lacking in all others. They see also that it supplies certain human wants that no other Church does. Do you know that recent statistics show that there are about one hundred and thirty monasteries and three hundred nunneries in the United States?"

"I had no idea there were so many. No wonder our people begin to think that there is a use in such institutions and strive to imitate their virtues, while omitting their vices."

"It can not be done in any such way as is embodied in these sisterhoods and brotherhoods. They are but weak imitations of the convents. When the religious are ready to face all the facts of life and human nature, as we have done, then they will be able, as we have been, to obtain all the good of monasticism and conventualism without its evils."

"You seem to have a firm belief in the usefulness of the convent," said Anthony, gazing thoughtfully over the stern at the receding headlands of the cape they were passing.

"Yes," said the Judge, gravely; "so profound is my sense of the need of a '*dwelling* together in unity' on the part of good people, that I feel like taking off my hat, as a token of respect, when I pass a great Catholic monastic building, wherein men and women live together in permanence, and with an external show of peace and concord at least; while Protestants and Liberals, intoxicated with notions of personal liberty, can seldom keep the peace, as it should be, in their private families."

"Of course, you think in your Society you have incorporated all that is valuable in monkery, and at the same time brought in the familism and other social features of ordinary life. Therefore I suppose you have not so much veneration for monasteries and Shaker settlements as you had."

"You are right," said the Judge, playfully patting Edith Hartwell on the head, she having now joined the circle. "The fact, for instance, that I, an old monk of our new monkery at Peacemaker Grange, can thus fondle our daughter and sister of harmony here, without giving offense to any, or promoting disorganization, shows what an advance toward true righteousness and a normal life we have made from the position of the Romish celibates.

"What do you think," asked Anthony, "of the prospects of the Romish Communion?"

"There is great force and vitality in that ancient organization. I am convinced that it is a providentially-supplied reservoir of religion, standing ever ready to nourish individuals and nations with its bitter-sweet waters, when they are in a state of reactive disgust from absolute irreligion, or blind obliviousness of the living waters of rational religion. What thoughtful person can glance, for instance, through the official records of this sect, with its wonderful array of churches, priests, asylums, academies, convents, schools, and religious confraternities, without exclaiming, O Boston! O Andover! O Princeton! O Rochester! O Harvard! have you nothing still to learn from the Papal Church?"

"I have often thought," said Edith, "that there is no place of refuge in Protestantism for weary, jaded souls, tired of the fight for dollars and luxuries, but the almshouse, or its equivalent — some Old Man's or Old Woman's Home, which is regarded as a charitable institution. Those who go into convents are recognized as doing worthy work for God and man. At least they are so regarded by those of their own sect."

"I have had dim notions," said Anthony, "of the fine element of solidarity to be found in this monastic system of the Romanists; but the despotic features of it have blinded me, I suppose, to its excellencies. I presume that in this predominantly Protestant country, this part of their Church machinery is looked after very sharply, and that the monasteries and convents here are remarkably free from abuses."

"Yes," replied the Judge. "The 'Maria Monk' and such stories do not seem to have amounted to much. As to sexual irregularities, I do not suppose that many monks

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or priests are allowed to come over here who have not thorough self-control in this regard. Do you know there is nothing rests me more when I enter one of those horrid, bustling, utilitarian towns of the West, than to see, perched up on a cliff in the suburbs, a church with a big cross on it and a big building alongside, evidently the abode of priests or monks or nuns. I like, especially if I pass there in the morning, when all the 'A 1' business men are going forth refreshed to their little and big grab-games, to hear those fellows on the hill rattling away with their bell for morning prayers. It seems then as if the bell was mocking the groveling utilitarians. But as for the 'religious' perched up there I say, 'Here now are people who pretend at least to do what we all should do in reality—connect religion with daily life at every step.' The Romanists often make bungling work of it; but the effort is commendable."

"These people," said Edith, "have quite an inkling of coöperative life. I have visited their 'Protectory' for children near New York—buildings far grander than ours at Mid Haven; and they have a remarkable variety of employment there. Among the departments assigned to different brothers are music, shoe-shop, tailoring, hoop-skirt, wardrobe, sanitary, and refectory. Others are stewards, infirmarians, etc."

"But how about the sisters, Miss Edith; are they quite subordinate?"

"No, indeed. 'I won't be a nun;' but I must admit that I was surprised, on investigation, to find what a fine scope is given to woman by that Church. They are employed in very responsible positions. One cause of the success of Romanism is that it opens so many avenues for women, cultivated and otherwise, to engage in legitimate work. What opportunities do the Presbyterians, Baptists, Methodists, Unitarians, or even your Episcopalians, as such, offer women? Scarcely any. To those who believe the doctrines, the position of principal of a church school, superior or sister, servant of a hospital or convent, prioress of a priory, or abbess of an abbey, must abundantly satisfy the longing for positions of use and profit that fills the hearts of so many of the most estimable women."

The shades of evening were beginning to fall upon the scene. The party engaged in such serious converse were now attracted by the merriment of Alice and Reynolds, who were amusing themselves and making themselves useful by trolling for blue fish. This is a very simple process; as the blue fish are foolish enough, if they see the semblance of a small fish darting through the water, to dart at it. Therefore the fishermen use a lead or iron fish with a hook in its tail, as their only bait. The motion of the vessel gives sufficient motion to the bait. So it is only necessary to let the line trail behind.

Reynolds had been quite successful, and had landed several fine blue fish; but Alice had caught none, though she was a famous "fisher girl." She was quite pouting. Her line hung on one side of the stern and his on the other. She insisted on all sorts of changes. He must shift over to her side, and she to his; he must even change lines with her. But still he kept catching until he had a dozen in a great basket, and she caught none.

"I declare, Mr. Reynolds, I believe you just bewitch my fish off from my hook. I feel them bite, and then they are gone."

"I'll tell you, Alice," said the Judge, "the fish see those big sharp eyes of yours and are frightened away."

"Really, Miss Alice, let us call it a partnership. Then what I catch shall be yours, and what you catch will be your own."

"Thank you, sir. I am able to catch my own fish, if I have a fair chance."

Just then she really caught one, and drew it in triumphantly. As she was drawing it over the stern, Reynolds rushed forward with a scoop net to aid the capture. But unfortunately, just as its nose touched the vessel, the fish jerked from the hook and was lost.

Alice flung the hook and line with a swirl back into the sea, and fairly glared at the unfortunate Reynolds.

"I declare, Mr. Reynolds, it is too tormenting. I believe you did it on purpose!" And she flounced down into the cabin.

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"You must not mind her pranks, Mr. Reynolds," said Edith, in a matronly way. "It's her nose and her hair. The nose turns up just the least bit at the end, and her hair is of that shade of gold that approaches red. So you see it is impossible for her to keep her mouth always in shape to utter 'prunes and prisms.' She gets so excited, you see."

Reynolds was in despair. He walked several times toward the cabin stairs and looked down, but was afraid to go down.

Then he looked with such disgust at his pile of fish, as if he would throw them overboard, that a prudent Peacemaker removed them from his sight.

After a moment, the Judge approached the stairway, and looking down said:

"Daughter!"

"Yes, papa," came from a meek, subdued voice.

"Are you not ashamed?"

"Yes, papa," still more meekly.

"Come up, then, and ask pardon."

"Yes, papa."

"Oh, no! no!" cried Reynolds; "I was so confoundedly awkward."

Alice slowly ascended the stairs, and appeared with "a smile on her lip and a tear in her eye."

Extending her hand daintily and timidly toward Reynolds, she said, "I was so excited, Mr. Reynolds."

Edith, who understands etiquette, observed that he retained her hand at least three seconds longer than ceremony required; and that after she withdrew it the fact was noticeable, even in the twilight, that the pink color of her fingers was not uniform, while that of her face was!

Then he sat quietly beside her, looking as if he could fully realize the emotion of the incarcerated John Bunyan, when he said: "And now, if it were lawful, I could pray for the greater trouble for the greater comfort's sake."

There was a cosy party in the cabin of the schooner that night. The vessel had been skillfully arranged; so that by the removal of a few partitions the whole of "between decks," up nearly to the forecastle, could be thrown into a saloon with spacious berths at the sides. There were state-rooms even made, by hanging curtains at several points.

Here the company of thirty enjoyed themselves greatly, and held high Thanksgiving carnival. There were various games—charades, forfeits, recitations, and singing.

There was

> "Converse, wild and sweet and wonderful:
> And quick smiles, whose light did come and go,
> Like music o'er wide waves."

The party had concluded to be out of sight of land in the morning: so that they could all have it to say that they had been "'Way out to sea." And then they were to be called an hour before dawn, to behold the glorious Apollo rise from his salt-sea bath. So they retired early; not forgetting the invariable family prayer of all Peacemakers; which were led by the Judge.

Glorious, indeed, was the rising of the great dispenser of light and heat. All overhead was serene blue, studded with stars. Nowhere was land visible. Fleecy clouds hung for a couple of degrees above the eastern horizon—just enough to lend the "pomp and circumstance" of varied shades to the auroral splendor. "Sweet Hesper—Phosphor" was faithfully at his post, striving to the last to outstrive his prodigious rival. It was hard to tell which was grandest—the first pink flush suddenly o'erspreading the gray of dawn, or each subsequent change of the kaleidoscope. When at last the first full glory came, with the first direct rays striking their faces, impulsive Alice enthusiastically clapped her hands, and was imitated with such vigor by all on board that Father Sol, who had just got one eye over the rim of the sea, winked with astonishment, and then turned purple with modesty, at this unwonted applause of his commonplace and oft-repeated performance.

A book might be written about the rest of this trip. Behold, its chronicles are written, "as with lead in the rock forever," in the hearts of the voyagers—especially in those of the strangers, who had been on yachting excursions with the *élite* of New York; but declared that they had never been in such good company before.

"Blessed are the Peacemakers."

SAM'L LEAVITT.

(To be continued.)

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SONG OF A SONG.

Sing me, oh sing me, my strain is not long;
I'm only the fanciful song of a song;
Sing me at once in the merry spring-time;
Sing me in tones clear as youth's sunny prime.
Bright eyes now glistening!
All ears now listening!
Sweet lips and voices now toning me through;
Young hearts and true, I was written for you.

Sing me, oh sing me, each soul-thrilling voice,
And pour out my yearnings in tones full and choice;
Let me be heard through the midsummer's bloom,
Down by the woodlands or seas where ye roam!
Sing me, each one, as ripe harvests ye reap,
Now, echo, resound me, in tones rich and deep!
Sing me, oh sing me, 'mid autumn's soft haze,
What though ye have lost spring's clear flashing rays.

Sing me, oh tenderly, through the pale hours,
When harvests are gathered and faded the flowers;
Sing me through winter, before the bright fire,
Where circle children around the grandsire.
Bright eyes now glistening,
All ears now listening,
Sweet lips and voices now toning me through,
Brave hearts and true, I was written for you.

GRACE H. HORR.

MRS. CLARA M. BRINKERHOFF.

THIS lady had some years ago acquired high celebrity for musical talent and capability. She was born in London, but was brought to this country by her parents when a mere child. Her musical education began under the direction of her mother, who was a singer of superior excellence, a pupil of the master Corri. When Clara was but twelve years of age her mother died, and she was placed for further training in the hands of Derwort, afterward Mme. Arnoult, and other instructors. She sang in public while yet a child, her voice and culture attracting the attention of the highest and most critical circles. Her father, Mr. Rolph, would not consent to her going upon the stage as a professional singer; so only the occasional concert employed the superb and highly cultivated voice which would have given its owner eminence in opera. At seventeen she married Mr. C. E. L. Brinkerhoff, of New York, and for three or four years after the marriage, in consideration of the wishes of her husband's family, she did not appear even upon the concert platform. At length, through the insistance of a prominent manager, Mr. Theodore Eisfeld, Madame Brinkerhoff consented to appear again before the public. And since that time has continued to sing from time to time in concert and oratorio; but she can not be said to have made use of her musical attainments in a professional way, having never entered into a formal contract with any company or management.

In 1861 she sang before the nobility of St. James with great success, and in Paris she received a very flattering expression of public approval. She has been instructed in the tenets of all the musical schools, and may be said to be at home in their literature and rendition. But her special sphere is that of classical music; and it is in this severe department that the high tone of her culture is conspicuous. According to a writer in the New York *Art Journal*, "Madame Brinkerhoff belongs to the class of singers who mark a period when they appear. Like Mesdames Mara, Pasta, Shroeder-Devrient, etc., women to whom music is not merely an art to gain the suffrages of the world, but an avocation pursued with a sort of religious fervor, whose knowledge was cheerfully lent to struggling novices less favored in gifts, and whose emotional utterances, as well as their most ardent studies, told of the artistic nature which permeated all."

The critics speak of her voice as possessing phenomenal qualities and extraordinary power. Lespinasse remarked that it would fill the dome of St. Peter's. Its unusual range and richness enables her to cover a very wide scope of subject and author.

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In oratorio she is superb; in opera, at home.

Madame Brinkerhoff is possessed of a physique of unusual vigor, which is the basis of her vocal capacity. Indeed, no one can expect to become great as a singer without robust health to sustain the vocal effort. In temperament she is well-balanced, with marks of high organic endowment and a careful training. Hers is an earnest, thorough-going nature, kind and generous in impulse, sympathetic, yet practically shrewd withal. Highly esthetic, and devotedly given to art, she is nevertheless far from being one-sided in her tastes or capricious and intolerant in her opinions. The common impression, that to be an artist is to be the next thing to a fool in practical affairs, finds no confirmation in this lady. We find her giving liberally of her leisure to enterprises which have some practical object, be it of a private or public nature. She has a wide head, and the busy, workful disposition usually associated with it. The portrait represents her in a costume adapted to an evening's performance.



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SIX WEEKS WITH THE UNFORTUNATE.

A FEW months ago it was my pleasure to teach for a brief time in the New York Asylum for idiotic and feeble-minded youth, situated in Syracuse. The location is delightful, commanding a view of the city and surrounding hills. The extensive grounds are artistically laid out with walks, drives, ornamental trees, shrubs, and flowers.

Near the entrance gate at the foot of the terrace, nestles the gardener's house of brown-stone covered with ivy. Following the main walk and ascending at intervals short flights of steps, the asylum greets the view; a substantial structure of brick, painted brown, with dark free-stone trimmings. A short distance from the main building are the green-house, farm-house, and other buildings.

Ascending the flight of steps in front, we will glance at the interior of the asylum. Through the vestibule we enter the spacious hall, the front of which, furnished with chairs, forms a pleasant sitting-room. On the left are the parlor and library of the superintendent; on the right the long reception-room and teachers' sitting-room, pleasantly furnished and supplied with books. At nine in the morning the children are assembled in three of the school-rooms in care of attendants, when the teachers enter and the day's programme commences.

For a half hour the pupils in one room sing with piano accompaniment, and those in the others form in line and march to piano music through three rooms thrown open for the purpose.

Three or four teachers have a busy time keeping them "in line" and "in step."

The procession is a motley one, combining the tall, who take the lead; the burly, the slender, the deformed, the ugly, the deaf, the nervous, the demented, the dumb, the crafty, the lame, the winning, the affectionate and beloved.

Some are too obstinate to march or even *walk* properly, and have to be coaxed, forced, or goaded along; others are weak and lag behind in an aimless manner. Occasionally they keep time and add interest by clapping hands.

At the close of these exercises they disperse to their respective school-rooms and gymnasium. Here a German gymnast teaches classes every half hour with wonderful success.

It is fascinating to watch the movements of this little multitude, their eyes riveted on their teacher, while with clock-like precision they perform the various arm, limb, and body movements. Dumb-bells, heavy and light, are used according to the strength of the pupils.

Other exercises more simple in character are performed by the more infirm. Throwing bean-bags, carrying cups partly filled with water, etc., promote steadiness of nerve and strength of muscle.

One evening of each week the children give a calisthenic entertainment, practicing to the music of violin and piano.

Without exaggeration I can say that their achievements equal, if they do not *surpass*, the exercises of children *compos mentis*.

The present capacity of the institution is about 220, but enlargements are being made, and the following year will find its capacities and attractions enhanced.

At present the school-rooms are large, but not sufficient in number, the classes being too large for the highest advancement of each member. During the year 1875 the number of pupils was 216; of this number 180 were State pupils.

As a rule the children in this institution are from families in moderate circumstances and from the very poor. Many were a public charge before coming here. Some are able to pay in part for their maintenance and instruction, and a few are full-pay pupils.

The aim of the superintendent is to keep the current expenses as low as is consistent with the welfare and proper education of the children. The institution has been in operation more than twenty-four years. The location is a salutary one, promotive of health; the number of deaths during that time being few.

One afternoon of every week the schools are open to the public, and the reader will not regret a brief sojourn in fancy through

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the several departments, thereby forming a hasty acquaintance with some of the children. To one unaccustomed to an assembly of this kind, a feeling of repulsion naturally arises as some of the faces and forms come into view; not repulsion alone, but *pity* for the ill-born, undeveloped, innocent beings.

The appreciation of a "sound mind in a sound body" can not be fully realized by the stranger to this unfortunate class.

The classes are arranged according to the ability and development of the pupils; the majority of them being unteachable under the ordinary methods of instruction.

Much skill, enthusiasm, firmness, and indefatigable energy combined with *unbounded* charity and patience are indispensable requisites to the teacher's successful work amid the darkened minds.

Original mental defect, combined with disease and deformity, render many of the children incapable of comprehending the *simplest facts*. The teacher must let herself down, as it were, to the very *depths* of simplification, and then the vague, mystified expressions, combined with the signs and monosyllables in response, tell her that she has presented them with *enigmas* rather than *simples*, and must delve lower and yet lower, till the form of expression conveys to them the idea it embodies.

O, ye teachers of common-schools, who complain of stupidity, transfer yourselves for a half-day only to a school of *this* kind, and you will return to your duties with an appreciation of your pupils never before experienced!

The advancement of the children just alluded to is necessarily slow; their inactive minds, like the soil, must undergo a long process of fertilization before even the seeds of knowledge can be planted.

It is this tedious, patient working day after day, and month after month, that tests the qualities of a teacher. If she can see that her "bead class" can place the white beads and the blue separate, after weeks and months of patient teaching; if she discover that her "form class" can place two blocks in position to imitate the copy after many discouraging failures; if her "color class" can take a red, a blue, and a yellow card, and place them to produce a certain form, she takes courage, for her pupils are on the high-road to *success!*

The schools are divided in classes, reciting a half-hour each. At the close of each recitation, the classes all change places at the sound of a bell, those in one room proceeding to another, reciting to a different teacher upon another subject.

Thus an interest is maintained in teachers and pupils that would inevitably wane were it not for this change of programme.

Better discipline and order are also maintained; their restlessness being abated by change of place and scene, and with frequent half-hours in the gymnasium.

Passing from one room to another, we may view the children at their occupations. Entering one room we see twenty or more in half-circles around a piano, devoting a half-hour to singing. This exercise is one of the most pleasing, and is entered into with much enthusiasm; there being many good voices cultivated by continued practice each day.

The singing classes are graded according to the cultivation and talent of the children; some simply learning to harmonize their voices to the tones of the instrument.

I have never heard more timely, spirited singing in our common-schools, than from these ill-fated beings.

The reading classes are large, and vary in grade from those who after much drilling have mastered a few "*words*," to those who are quite proficient in different primers and readers.

One of the greatest barriers to the progress of the reader is deficient articulation. Many who comprehend the meaning of words, and can memorize, are the victims of imperfect organs of speech. It is painful to see the struggle and often the defeat to which the mind is subjected in striving for utterance.

Comprehension of *numbers* is one of the difficult accomplishments, and requires indefatigable labor and infinite patience from the teacher, in order to produce any degree of acquirement. Various objects, as balls, blocks, beads, etc., are used in the first steps

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of the work; afterward those who have advanced, may learn blackboard exercises, marks, then figures. In my four years' experience in the work, in another State, I have found exceptional cases in which the organ of Number is so deficient as to render the otherwise fair scholar unable to comprehend the addition of *three and three* after months and years of persistent determination on my part. The minds of some can not grasp the mental process by which one number added to another produces a larger, although with *objects* or *marks* to count, they may give the required answer. Others possess a wonderful development of this power. I recall one especially, who, writing a long column of figures on the board, extending into decillions, will simply *glance* up the columns, writing the correct result each time without fail. The famous Lightning Calculator who gave instruction in his wonderful art of adding, would find his *match*, at least in computing, with this idiocratic youth.

Memory of dates is not an uncommon characteristic; some of the children being living almanacs! This class, in speaking of any occurrence, generally refer to the *date;* as, my sister came June 12, or I received my letter May 24, and these statements, upon referring to the calendar, I always find correct.

One more mysteriously profound than I have ever met (in my school in Mass.) can give you the week-day of any date you may mention which comes within the scope of his remembrance. For instance, you ask, What day was Nov. 26, 1859? He will answer without hesitation. He does not give time for reflection, however remote the date, if within his remembrance, and upon referring to authority, I have always found him correct. Query: How can this be accounted for?

Drawing and writing are specialties in the several departments of the institution. The beginners and those somewhat advanced using blackboards, and the more proficient, books. The art of writing, to the majority of these children, involves unceasing daily effort, made more complicated by the many physical disadvantages under which some of them labor, as near-sightedness, left-handedness, muscular weakness, etc. There are all grades in this exercise, from the class in hieroglyphics, to the writing on boards and books that would do credit to scholars in common-schools.

There are several classes in drawing; the more proficient executing very fine drawings from the higher cards.

Rudimentary instruction is given on subjects of a very interesting character, as form, weight, the human body, plants, animals, etc. Many may become interested and instructed in these branches, that can not acquire other knowledge.

Some of the girls can show you specimens of needle-work. Each day instruction is given in this department; the more proficient cutting and making garments under the supervision of a teacher. A pleasing collection of fancy articles, tidies, toilet sets, cushions, etc., have been made.

Should you chance in one of the rooms at the appointed time, you would see a long row of boys varying in size from the very small to the full grown, busily engaged in rope-braiding. Each has a coil of rope fastened to the wall, and for a half-hour morning and afternoon they braid; some three strands, others six or seven.

This is a very pleasing exercise, promoting utility, for the ropes, when braided, are formed into mats by the children.

In another portion of the building a custodial department is provided for the more impotent, where attendants provide amusement and instruction for them.

Many people fancy that lack of *will* is characteristic with children of this class, and that government is easily maintained. This is an erroneous idea. Experimental knowledge vouches the fact that the person who can successfully govern these children, can govern any. Whoever can touch the keys producing harmony from *broken-down* instruments, *out of tune*, surely can bring forth music from an "upright" or a "grand."

There are many obstacles to encounter in governing this class of children that are not met with in common-schools. It must ever be borne in mind that the line which separates the responsible from *irresponsible*

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actions, must be drawn with much charity and care. It is often difficult to determine just where to suspend charity for inflexible discipline. Original, mental defect, often accompanied with disease and deformity, renders a subject a complicated enigma; but add to this an indomitable will, a preponderance of combativeness, small conscientiousness, and a propensity to tantalize continually, and you have a specimen of human nature requiring firmness, charity, tact, and love, in large quantities. The *exterior*, though poor, blighted, and misshapen, is a human form, and however depraved it may seem, it is the home of a soul; dwarfed, perhaps, but way down below the débris it *lives!*

It was my fortune to have daily a girl under management answering to this description. Her name was Thorne, and she was literally a "thorn in the flesh." When I first entered the room as a visitor, she attracted my attention (an art in which she excelled) by leaving her seat and coming to me laughing and saying: "You teach us?" "You nice lady." "You won't punish, will you?" When not talking to me she would attract my attention in other ways; holding up her apron, standing, etc.

When I entered as teacher I was informed of her evil propensities, and told that her aim and delight would be to tantalize in every possible way. Sure enough, the prediction was true! Not one moment passed that her untiring energies were not fully occupied in carrying out the devices of her mind! From the first, I decided to ignore her doings, always speaking kindly, and thus to win her good favor, but my silent efforts were futile, and every day her annoyances increased rather than diminished, until I was obliged to resort to forcible resources. One very disturbing habit was to slam down, with a loud noise, the seats as she passed them in the school-room, during marching hour; each time looking at me, laughing. Finally I told her if she slammed another seat I should punish her hands. This was just what she'd been wishing, and the news was received with delight; so, in a few moments, another seat suspended on hinges fell with a crash, and a pair of evil eyes nearly closed, were turned exultantly to me, her face convulsed with laughter.

Immediately I went to her, and with some difficulty led her away from the others, and after a half-hour's severe labor, succeeded in confining her hands. Her strength seemed almost superhuman; and, for a while, I thought she would gain the victory, unless I called for aid. I left her uttering fierce imprecations; and at noon went to ascertain her condition, telling her if ready to mind when spoken to kindly, I would release her for dinner. But she was perfectly relentless and took her dinner in solitude. There she remained the greater part of the day, when she promised "to mind."

After that day I found that in order to live with her, not one evil deed should escape my notice. I followed her up closely, and when she persisted in wrong, I threatened another similar confinement; this assertion she doubted, and obliged me to reiterate twice the solitary confinement.

The effect produced by the last was magical. She never gave me cause for like treatment afterward; her entire demeanor toward me was changed. I always spoke and treated her kindly, praising her for every good deed. I *liked* her in spite of her depravity.

Her demonstrations of affection were so frequent and forcible, that they proved annoying, though gratifying, for they told me she was exhibiting another phase of her nature. She would lie in wait for me, as a tigress for her prey; and when I passed through a room she was in, would seize me with a powerful grasp, and only by force could I extricate myself. Her appreciation of gifts was marked. Coming from lunch one day, I gave her half an apple, and several days after, she took it from her pocket shriveled and dry.

When she heard I was going to leave, her grief found vent in floods of tears, though not a word escaped her lips. As I entered the school-room the morning of my departure, she was sobbing bitterly, and the moment she saw me, she sprang from her seat and ran to another room like a hunted deer. I followed her, wishing to bid her good-bye, but she vanished the instant I approached. She spoke not a word, but sobbed. Thus

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closed my parting with the poor, ill-starred child. It made an impression on my memory never to be effaced; and who shall say that some time in the dim future we may not "meet beyond the river," her sin-steeped soul "washed whiter than snow?"

Chapters might be written upon the idiosyncrasies of this class of unfortunates. To a lover of human nature or mental philosophy, the field is broad and complicated. As a class, they are willful, affectionate, and combative, with a universal lack of continuity. The causes producing their abnormal condition are various: severe illness in childhood, injuries from falls, epilepsy, inherited disease, and many other known and unknown causes.

The number of kindred institutions in our land is surprising; an evidence that there is a vast number of helpless unfortunates in our midst. The Columbus, Ohio, institution, is colossal, containing some 400 pupils. In Media, Pa., is another, and two in the State of Massachusetts; one in Boston, and the beautiful private home in Barre.

Throughout Great Britain there are well-ordered private institutions for the care and training of the weak-minded. Within a year an asylum has been founded in the suburbs of London for the training and care of 300 pupils.

God speed the time when people will so live that the world may be freed from these, and all other institutions provided for the unfortunate victims of ignorance and vice.

GRAZIL.

WHICH LOVED BEST?

"I LOVE you, mother," said little John;
Then, forgetting his work, his cap went on,
And he was off to the garden swing,
And left her wood and water to bring.

"I love you, mother," said Rosy Nell;
"I love you better than tongue can tell."
Then she teased and pouted full half the day,
Till her mother rejoiced when she went to play.

"I love you, mother," said little Fan;
"To-day I'll help you all I can;
How glad I am that school doesn't keep!"
So she rocked the baby till it fell asleep.

Then stepping softly she fetched the broom,
And swept the floor and tidied the room;
Busy and happy all day was she,
Helpful and happy as child could be.

"I love you, mother," again they said—
Three little children going to bed.
Now do you think that mother guessed
Which of them really loved her best?

HOW CHARLIE WAS CURED OF RUNNING AWAY.

THIS little story contains a hint or two of value to parents who are troubled with misgivings on account of their boys:

"I declare, it's too mean for anything, mamma," said Charlie, angrily, his forehead knit into a thousand cross little wrinkles. "If I can't do like the other boys, I'll just run away altogether."

His mother looked very sorrowful, for Charlie was her only boy, and his naughtiness sent a sharp pain through her heart. He was only nine years old, but of late had become so headstrong and willful that he was almost beyond her control, and this threat of running away had been oft repeated. That night she went to sleep, and a sudden idea came into her mind. It was a very curious plan by which she hoped to cure Charlie of his willful ways.

The next afternoon her boy came rushing in after school, dashed his books down, and was rushing off again, when his mother called him back.

"Where are you going, Charlie?"

"Only out for a row on the pond with Jack, mother; I'll be back by tea-time."

"But it's beginning to rain, and your throat is still sore, my son. Suppose you ask Jack to come in and take tea with you instead. I'm afraid to have you go while it is so damp."

Charlie's face flushed angrily. He threw

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his cap down and muttered: "No, I won't have him to come at all! It's a shame I'm so tied down. I've a mind to run away, I have, so."

His mother did not speak for a minute, then she said quietly, but very firmly: "You can not go out to-night, my son."

Charlie went to his play-room very sulkily. At tea he did not say a word, and after tea he studied his lessons gloomily, without the usual bright questions and talks with his mother. He rose to go to bed, but his mother called him back.

"Charlie," she said, gravely, taking his hand in hers, "you have talked a good deal lately about running away, and now I think, as you don't seem very happy at home, perhaps you had better go. So I've told Charlotte to have an early breakfast, so that you can start at seven, and I'll tie up some clothes in a bundle for you. You can take your father's knotted cane, and Charlotte will give you some cold biscuits to put in your pocket. I'll call you at half-past six."

Charlie could hardly believe his ears. Was his mother in earnest? That wasn't the way boys ran away! He felt very tight and queer in the throat, but he was too proud to cry, so he only muttered, in a shaky voice, "Very well, I'll be up in time," and went to bed. She called him back to put his school books in the closet, as he wouldn't need them any more. This was almost too much, but the child obeyed without a word, and then went slowly upstairs.

That night his mother lay awake many hours, full of anxious fears as to the result of her experiment. Charlie felt very sober about his prospect for the next day, but it was too late now to retreat, and he determined not to give in. Nevertheless, he was sound asleep when his mother came to give the forgotten good-night kiss. She saw the mark of tears on his face, and her heart grew a little lighter.

Charlie was up early in the morning, long before his mother called him. It was a cloudy, chilly day, and the warm breakfast would have tasted very good, if he had thought about it, but he never could tell what he ate that day. When it was over, his mother said, in a commonplace way: "Now, my son, you had better be starting. Your best clothes are tied up in this bundle, and I have put some of Charlotte's nice biscuits in with them. Good-bye, and be a good boy wherever you go."

They were on the front steps. His mother kissed him very affectionately, exactly as if he was going on a long journey, watching him go down the steps, and then went in and closed the door, and Charlie was left to go his way alone.

He walked very slowly down the street to the corner, stopped there, and looked up and down. It was early in the morning, and nobody seemed in sight. A great feeling of loneliness and longing for his dear lost home came over Charlie, and he would have given worlds to be back again in the warm, cosy sitting-room, looking over his lessons before school. He turned the corner and walked a block, then turned once more and went slowly along, his head down and a feeling of entire forlornness, getting worse and worse all the time. What was his mother doing now? Washing up the glass, no doubt; he hoped they would not forget to feed Billy, the little Scotch terrier. Ah! he would probably never see Billy again!

Just then Charlie came plump against a fat black woman carrying a pitcher of milk. He looked up and exclaimed:

"Why, Charlotte!"

"Why, Master Charles!" said Charlotte, who had slipped out of the back door just when our boy left the front steps, and had never lost sight of him for a single moment.

"Oh, Charlotte!" repeated Charlie, bursting into tears and seizing her hands, regardless of the milk pitcher, which fortunately was empty, "do you think mamma will ever take me back again?"

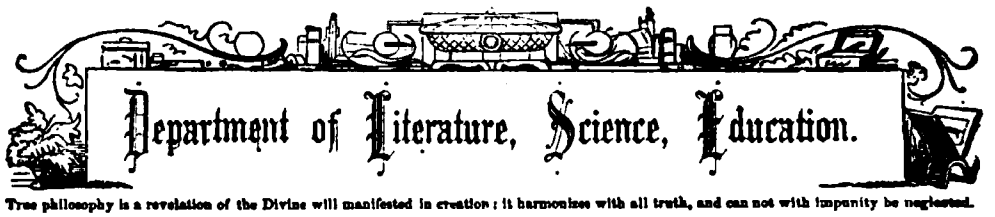
"Just try, honey; I'd go and ask her right away," said good old Charlotte, her eyes rather misty.

Charlie's mother was sitting by her work-table, when she felt two tear-wet arms around her neck, and a voice choked with sobs said:

"Oh, mother, if you'll only forgive me, and take me back, I'll never want to run away again—never!"

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She held her boy close to her happy, thankful heart, and kissed him again and again. Her experiment had succeeded, and that was the last that was ever heard of Charlie running away. — *The Occident.*



True philosophy is a revelation of the Divine will manifested in creation; it harmonizes with all truth, and can not with impunity be neglected.

CAPITAL PUNISHMENT.

THE nature of punishment inflicted for crime, and the spirit in which it is inflicted, are characteristic of an age. Did mankind hand down to posterity no other evidence of their condition from time to time, than an exact record of crimes and their punishment, the thoughtful man might draw from this alone, fair inferences of the civilization and enlightenment of each succeeding age. The difference in the atrocity of the crimes committed might be hardly sufficient to distinguish the most barbarous from the most enlightened age; but a true statement of the spirit and manner in which these crimes were punished would furnish sufficient data from which to draw his inferences.

The nature of crime is the same in all ages. The progress that men may hope to make is not in its nature so much as in its prevalence. The nineteenth century commits crimes at which the ninth might have shuddered; and the twenty-ninth will probably commit crimes as atrocious as are known to the nineteenth. The spirit of criminality seems to be encased in armor impenetrable alike to the progress of ages and to the keenest darts of retribution.

Though the criminally disposed of to-day are but little better than those who have gone before, and but little worse than those who will come after them, yet the first receive different treatment from the second, and the third will receive different treatment from either. If there is nothing in the character of the criminal to entitle him to milder punishment, there is something in the enlightenment of the people that entitles and impels them to a different vindication of their rights. Men are gradually growing into the idea, and we trust they will yet fully understand it, that the moral law is not strengthened by being violated in its own vindication. Men have often violated the very laws which they sought to vindicate; have trampled upon the laws of order in punishing disorderly persons. And it seems to us that in inflicting capital punishment, we, at one stroke, outrage and avenge the laws of morality.

We hold that the infliction of capital punishment is an over-zealous and mistaken vindication of the laws of right. There is something repulsive in the idea, from which the best men turn in disgust; and there is something shocking in the spectacle to which the worst cling with a sort of morbid satisfaction.

Death may seem to be a punishment merited by him who is guilty of his brother's blood; but its infliction seems to us to be the penalty which humanity pays for having been outraged. It violates the finer feelings of the best classes of men, and irritates the coarsest feelings of the worst. The execution of a criminal has, we think, an effect just the opposite of what it is designed to have. It does not appeal to men's better, but to their meaner nature. It does not tend to awaken feelings of respect for the law, but of opposition to the law.

A strong evidence that capital punishment is unsuited to the higher stages of advancement, lies in the fact that, as men become

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more and more enlightened, they gradually grow out of, or away from, the idea. They pass beyond that state to which it is adapted. Half a century ago, if, in our own country, opposition to capital punishment had any existence, it was only as the unexpressed opinion of an individual here and there. To-day the sentiment pervades all parts of the country, and embraces nearly all classes of men.

The catalogue of capital offenses has been gradually, but constantly shortening, until now there is but one crime known to the civil law, whose penalty is death. Old records tell of hangings for theft, for forgery, and for various other crimes which the present thinks more fittingly punished by other means. It is highly probable that, were it not for some fancied, and we think only fancied, Scriptural authority for demanding a life for a life, even this crime would long since have ceased to bear with it the death penalty. Those who claim Scriptural sanction for capital punishment, would do well to remember that in the first murder ever committed, when God dealt directly with man, when His will was not subject to the misinterpretations of frail humanity, the murderer was not condemned to die. The feelings of men have grown so far away from this barbarism that, in many places, great difficulty is experienced in finding a jury to sit in judgment upon a man arraigned for murder, since to find him guilty implies the death penalty, which is contrary to their convictions of right. We think that facts prove that many a guilty person has gone free, because the jury hesitated to bring against him a verdict of guilty, bearing with it the penalty of death, even when, had the penalty been different, the evidence would have been sufficient to convict him. We have little quarrel with juries for this. If men must err at all it is far better that they err on the side of mercy; but there is something manifestly wrong and even dangerous to the maintenance of law and order, in placing juries in such a position that they can not weigh evidence independently of their own feelings and convictions.

It seems clear to us that through the feelings of juries in this matter, though no doubt meaning to be honest in their verdict, many guilty persons escape all punishment; and the question which presents itself, is, whether it were not better to make the law and the penalty of its violation so conform to the sentiments of the day, that men need feel no hesitancy in convicting a criminal upon sufficient evidence. Were not a less rigorous law, strictly enforced, more effective than the severer one which the sentiment of the people frequently prevents them from inflicting? Is it not a mistaken idea that the severity of a penalty increases its restraining influence on men's actions, when that very severity causes good citizens to shrink from inflicting it? Is not that severity, mistaken for strength, really an element of weakness, which can not fail to bring reproach upon that law, and to defeat its object?

E. T. BUSH.

THE REALITY OF CHIVALRY.

AS the mind wanders back to the days of chivalry, it can scarce catch the significance of the strange and curious features of that cardinal era. Perhaps the knight may have fought for his lady-love; may have loved an enemy, and hated meanness of soul, yet the story seems unreal, and appears like a play of the fancy. Chivalry was no chimera. It was a stern, yet beautiful, reality. It was a principle embodying the fruits of ages. Its germs had been nourished in the homes of the patriarch, and cherished by the hardy Goths of Europe. Wherever men were associated in clans, there the fraternal bonds of knighthood were forming. Wherever protection and reverence were accorded woman, there the gallantry of chivalry was taking on its form; and where acts of kindness were rendered at the call of affection and duty, there the generousness, liberality, and humility of the knightly character began to reveal itself. Thus Christianity amalgamated these principles and gave them impulse; and the organic whole was that feature of the middle ages—sung by minstrel and poet—chivalry.

Every stage of society has its representa-

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tive man. In character there are reflected the vices and virtues of his time; and a glimpse of his life is a sketch from the history of his nation. In the lives, therefore, of Sir John Chandos, of England, of Bertrand Du Guesclin, of France, and of the Cid Campeador, of Spain, we may learn the principles of chivalry, and study its effects upon the character of the people; for it was with these nations that chivalry reached most closely its ideal. If in Germany it cast a few fitful gleams around her barbarous citizens and their barbarous deeds, in Italy it burned with a pale light. But it was a golden thread linking together the knights of Spain, France, and England; and though in the three nations its principles were the same, still the chivalric character of each had a type of its own. The roving Normans had swept down upon England and left an impress to be felt forever; and in the Spanish knight there was fused the European type with the Asiatic — Europe, with her fervid, frank, generous nature; Asia, with her subtlety of thought and power of imagination.

If in Chandos there are not found all the vices of his age, neither did he possess all its virtues. But any man representing more perfectly the true character of English chivalry might not be found in searching many a volume of British history. The English knight had the reputation of an adventurer; and if Chandos failed anywhere, it was here. That peculiar trait shown so strikingly in him of the Lion Heart, and delineated so well in Wilfred of Ivanhoe, found less sympathy in the mind of Chandos. Yet when we read that his battle-axe battered many a helm of the French at Auray, we reflect that, if by courage he then overcame Du Guesclin, a certain love of adventure must have sought for him the encounter. When he marched out to Spain to assist his king in reëstablishing Peter the Cruel upon his throne, though Chandos himself had urged the folly of the act, we recognize the beauty of knightly obedience. And when, though the Earl of Pembroke had refused him aid in some adventurous emprise, in the generosity of chivalry he rushed to the aid of the earl, when beleaguered at Puirenon, 'twas like a ray of sunlight on some dreary day of autumn breaking through the drifting clouds. It was a fitting crown to his virtues when, with another cavalier, he saved the ladies of the Castle of Pays from the brutal assault of the rabble; and it bespoke the kindly effect of chivalric principles upon the character of his age.

The name of Du Guesclin bears with it a signification differing but little from that of his English brother-in-arms. The knight of France is said to represent the gaiety of chivalry; but in this respect the life of Du Guesclin, as truly representing its French character, is defective. He had descended from the native stock of Britain, and thus lacked the historic spirit of the French. He had none of that gallant grace; which, however, in later times degenerated into a trifling superficiality. No valiant knight of England excelled him in adventurousness. By his daring and prowess England's power in France was overthrown. Brittany was recovered by the French; "the bright visions of glory created in the minds of our Edwards were blighted;"* and France recovered her station among the high powers of Europe. A virtue which history does not accord to Chandos was a lofty patriotism. Once when Du Guesclin was a prisoner of the Black Prince in England, he was offered his freedom if he would take oath never to war in behalf of his native France. His noble sense of honor was disclosed in his refusal. These were not the only chivalric features of his character. Adventurousness was chastened by mercy to those who were the objects of war; and at the moment of death he urged his followers to devotion to God and loyalty to the king.

If, now, we turn to the Cid Campeador, our Spanish representative of chivalry, we shall find some strange element mingled with the Gothic nature of Spanish life, giving it a new type and one more stern. The religion of Mahomet had swept westward to Spain; and the Saracen had fortified himself upon the heights of Granada. He had brought with him the craft, as well as the stateliness, of Oriental civilization. Its ef-

* Mill's Hist. Chiv.

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fect upon the chivalry of Spain we shall see reflected in the character of the Cid. Chandos was adventurous; Du Guesclin still more; yet the one was generous, the other merciful. The Cid loved adventure; yet when we see him seeking out the knight who had insulted his father, and returning in triumph with the head of the knight hanging at his saddle bow, we understand that vengeance urged the deed, and not the outraged spirit of chivalry. He pledged his word often to the Moors, and if it suited his purpose to keep it, he kept it; if not, it was broken. Here there was none of that knightly honor which gave a beautiful coloring to the lives of Chandos and Du Guesclin. Banished by Alfonso, his king, he fought under the Moorish banners against his flag and kindred; and here he lacked those patriotic principles—rather than dishonor which, Du Guesclin chose captivity. Though in general the cold, calculating knave, we yet turn with pleasure toward one feature of his character, and in this the Cid faithfully represented the Spaniard of his day. He gave no heed to differences of religious belief. He saw in the Spanish Arabian only a brother in knighthood. Upon this equal footing Arabian met Christian in the joyous tournament; and from this association sprang that religious liberty which characterized Spain alone of all the nations of Europe in early times. But notwithstanding this redeeming principle, his character was that of a cool, conservative man of genius. With Chandos and Du Guesclin it was different. Prudence and calculation were not suffered to check noble aspirations. The true knight scorned subtlety and stratagem. He loved to display his zeal in a wild, generous burst of passion. The imagination glowed; "life was a dream; the world a vision."

How, now, shall we regard chivalry?—as a foolish fanaticism of the middle ages?—devoid of purpose?—and as empty of result? To-day we boast our advancement in civilization. We boast our mercy in war, our generousness in peace; our love of the noble, and our hatred of revenge. These qualities must have had an origin. There must have been a time when their mellow influences were scattered upon the fallow soil of wild and uncultivated minds; and what shall we say they were? Surely no opinions which for the last few centuries have been infused into our national life. Shall we not rather trace them to that age of Europe when a Chandos or a Du Guesclin was quick to strike and generous to forgive, and when he could love an enemy for the noble qualities that were in him? And to what shall we ascribe that reverence for woman which distinguishes the nations of Europe and their descendants in America from the nations of the hoary, stately Orient? Is not the cause to be found in that principle which urged the knight to deeds of daring that should merit the esteem of his lady-love? This, then, was the office of chivalry. It marked the transition from barbarism to civilization. It softened the harsh character of the age, and molded a nobler ideal of life. It formed the basis of a civilized society; while its principles have come down to us and still control every noble action of our lives.

GRANVILLE M. TEMPLETON.

ETHICS OF DANCING.

THERE is no cessation in the number of inquiries made by people with reference to the propriety of dancing as an amusement. Persons of excitable, lively natures lean toward indulgence in it because they lack other means of diversion which as fully satisfy their unregulated humor. As to the scriptural view of dancing, concerning which some would be enlightened, we will quote an eminent commentator, Dr. Eadie, who says in his "Cyclopedia:"

"From a collection of all the passages in Scripture in reference to dancing, it may be inferred:

"1. That dancing was a religious act, both in true and idol worship.

"2. That it was practiced exclusively on

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joyful occasions, such as national festivals or great victories.

"3. That it was performed on such occasions only by one of the sexes.

"4. That it was performed usually in the day-time, in the open air, in highways, fields, and groves.

"5. That men who perverted dancing from a sacred use to purposes of amusement, were deemed infamous.

"6. That no instances of dancing are found upon record in the Bible in which the two sexes united in the exercise, either as an act of worship or amusement.

"7. Lastly. That there are no instances upon record in the Bible of social dancing for amusement, except that of the 'vain fellows' void of shame alluded to by Michal; of the irreligious families described by Job, which produced increased impiety and ended in destruction; and of Herodias, which terminated in the rash vow of Herod and the murder of John the Baptist.

CHARLES COLLINS,

LATE CHIEF ENGINEER OF THE LAKE SHORE RAILROAD.

THE portrait of Mr. Collins introduces to the reader an organization combining elements of practical ability, energy, earnestness, and sensitiveness. The broad forehead, with its marked fullness over the eyes, shows great capacity to gather facts, to comprehend their significance and uses, and to apply them in accordance with their special fitness. The organ of Order appears to be unusually strong. So, too, is Constructiveness. Such a man would be systematic and methodical in his work, as a matter of course. The organs of the upper side-head appear to be well developed, imparting the disposition to be prudent and guarded in action, to be tasteful and nice in the ordering of affairs subject to his control. Such an organization would give the useful a rank above the esthetic, but would associate with the useful elements of decoration and refinement where it was practicable.

A man of strong will, firm in purpose, stanch in maintaining his position, yet he was not a man of easy assurance or positive self-satisfaction; not imperious or arrogant. He possessed, by temperament and organization, too much sensitiveness to be coldly self-reliant. He was evidently very fond of friends, and highly appreciated their esteem; looked upon home and its associations as important factors in the economy of human life, enjoyed whatever contributed to social enjoyment, and would do his part toward making those happy in whose society he found himself. In sensitiveness and social spirit he reminds us of Tom. Moore, the poet. Disorder and irregularity he could not tolerate any more in his social affairs than in his business. He possessed, in a high degree, ability to make friends, and to adapt himself to others. His Language was large enough to make him ready in expressing his thoughts, but we judge that he was more direct and to the point than copious in the use of words. In circumstances awakening strong emotion, such a nature indicates its feeling by action rather than by words. Not much of encouragement would be required to stimulate a man organized as Mr. Collins was to do his very best. Without any uncertainty with respect to his own competence, he nevertheless received gratefully the approval of his friends and employers, and found a high degree of satisfaction in knowing that his achievements were deemed adequate to the occasion.

He was scarcely hopeful enough, and that quality associated with large Caution

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and rather strong Conscientiousness, would incline a man to look upon difficulties and embarrassments with an eye of such seriousness that they would assume larger proportions than belong to them, and excite to greater effort than is necessary for their removal.

We take it, then, that the portrait represents a man who could not assume responsibility in an easy, off-handed manner, his large intellect being able to take in all the details of a given charge, and his moral tone imparting a strict sense of duty in its performance. Mr. Collins was organized for business and science. Rarely are men endowed in so marked a degree with faculties for investigation, for planning enterprises and organizing work.



Charles Collins, late chief engineer of the Lake Shore and its associated railroads, possesses for our readers a melancholy interest, because of the terrible calamity which occurred on the 29th of December last, at Ashtabula, when the railway bridge broke down at night, and several car loads of passengers were precipitated into the frozen creek sixty feet below, there to meet the combined horrors of death from wounds, fire, and ice-cold water; and because of his suicide not long after that calamity. A sketch of his life in Appleton's *Railway Guide* informs us that he was born in Brunswick, Renssellaer County, N. Y., in 1821, of a family among the oldest and most respected in Troy, N. Y. He received a thorough and practical education, graduating from the Renssellaer Polytechnic Institute with high honor. For several years succeeding his graduation he was employed in engineering in various parts of New England, displaying much ability,

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and laying the foundation of his subsequently very useful career.

Mr. Collins was for some time in charge of important work on the Boston and Albany Railway. In 1849 he received offers from Ohio, and soon after removed to Cleveland and its vicinity, where he was engaged in locating the Cleveland, Columbus, and Cincinnati Railway. Shortly afterward he became assistant in the location and construction of the Cleveland, Painesville, and Ashtabula road. Besides his early connection with the above-mentioned roads he was at one time in the employ of the Cleveland and Mahoning Railway Company, and often received large offers from the Southern States to take charge of railway construction and management, but finally accepted the position of assistant engineer on the Cleveland, Painesville, and Ashtabula road, afterward becoming its chief engineer.

On the consolidation of the Cleveland, Painesville, and Ashtabula road with railways east and west, Mr. Collins was elected chief engineer of the consolidated line, and its branches, which office he retained until his death. While employed in the construction of the Cleveland, Painesville, and Ashtabula road he became acquainted with, and married, the daughter of Mr. Edwin Harmon, of Ashtabula, O., and proved a devoted husband, and also a valued friend and adviser in all his family relations.

While in the zenith of a well-earned reputation, there came news of the calamity of the 29th of December, at Ashtabula. The relations of Mr. Collins to the ill-fated bridge have been accurately stated in the evidence taken during the investigation. He did not design or build it. It was an experiment with which he was apparently not quite satisfied, but he apprehended no danger. It had stood the usual tests; it had borne up without developing weakness or flaw for ten years, and had not apparently suffered injury from use. It was his duty certainly to inspect and protect it from deterioration by natural causes, and this he undoubtedly did with the same fidelity that he gave to every duty, but did not discover the imperfections which after its destruction were palpable enough.

When the dreadful disaster happened, Mr. Collins hurried to the scene a broken-hearted man. Day and night, almost without food or rest—for he could neither eat nor sleep—he labored in the snow and ice to recover what the wreck had left of wounded and dead, and to repair the damage to the road. Although not held responsible for the disaster, it oppressed him with a weight that he could not shake off. The scenes of that awful night preyed upon his sensitive nature, and drove him, day by day, nearer to that condition in which the mind breaks down utterly, and insanity results. His testimony before the legislative investigating committee, and the manner in which it was given, impressed the committee so favorably that the examiners announced privately, after the conclusion of the session, that their report would entirely exonerate him. But with that testimony his life-work ended.

BOOK KNOWLEDGE.

IT has often been remarked how little, with all our facilities for study, we surpass the ancients in power of intellect. In material prosperity alone there is certainly no ground for comparison, but in the region of ideas we can claim little that may not be found, in germ at least, in the writings of antiquity. Where is our moral philosopher who has surpassed Confucius or Socrates, or the thinker superior to Plato or Aristotle? And few would claim for any modern poet a place above Homer or Virgil. In all the wide field of intellectual culture, perhaps Greece stands alone in unsurpassed eminence. Various reasons have been given in explanation of this fact, but I think none so forcible as that, in those early times, books were few and costly, and men were obliged to use their minds actively in the development of thought, rather than passively in receiving the ideas of others. Instead of being surrounded by shelves loaded down with dusty volumes, men were accustomed to read well a few books, and to draw from

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the depths of their own minds those thoughts which elevate the feelings and enlarge the field of knowledge. Whatever genius a man might have was not smothered by enormous quantities of useless matter, but was left free to display itself in all its strength and beauty.

Study of men and nature, together with independent thought, can certainly do more to develop the higher qualities of men than the mere passive absorption of other people's ideas. An eminent person being asked to name the best work on politics replied: "Take a blank book, note down your observations of men and the conclusions you derive from them; that is the best book you can read."

It is very common for men, among college students especially, to pride themselves on the amount of book knowledge they have acquired, and they entirely ignore the qualifications of persons who venture to express opinions contrary to those taught by the recognized writers. It is true that men are fast becoming more liberal in their views, but the old spirit of intolerance has by no means entirely passed away. Men are not burned now for honestly expressing their opinions, but burning is not the only means of persecution. To be deprived of all social intercourse with the more respectable, though less tolerant, is not seldom as hard to bear as burning at the stake.

There are certainly more ways of acquiring intellectual culture than by reading books. As John Morley says, speaking of Rousseau, who spent much time traveling about France: "These weeks may seem grievously wasted to a generation which is apt to limit its ideas of redeeming time to the two pursuits of reading books and making money." But during these journeys Rousseau saw more of life and its needs than could have been obtained by months of study in a lonely library. In fact, nature alone can teach men the sublimest truths; and many a person who can neither read nor write has yet learned lessons of the most valuable kind.

Buckle, the great English writer, was debarred, as Helen Taylor says, "from all those places, in short, where men and boys learn to imitate one another," and this certainly goes far to account for that author's depth of thought and originality. He was forced to think for himself and not to obtain assistance at every turn. We all remember, too, how Lord Erskine, after spending a great part of his youth and early manhood in the navy and army, not having the privilege of book instruction obtained by others, yet, immediately on entering upon the practice of law, gained a reputation for forensic eloquence never since surpassed. His wide experience of men and the requirements of human nature enabled him with fearlessness to overstep the unreasonable boundary of legal refinements, and to display that admirable judgment unequalled by those accustomed to books alone. Then, too, there was Charles Dickens, that careful observer of human nature, who gathered from the streets and workshops that knowledge which has had such an elevating influence upon men. So we might name many others who have obtained the choicest wisdom not from books, but from their own experience and their careful thought upon it.

One of the worst qualities of mere book knowledge is, that it is seldom found available. In the study of history we learn certain facts, but how are we to apply such knowledge to the affairs of to-day? Knowing the facts alone without perceiving clearly their connection with each other, would be of no value to us further than as a sort of ornament. But when we once learn the relation of these facts, when we see from them what results will follow certain causes, we have knowledge which is applicable to the needs of society. But much of this may be learned outside of books. So in law, a man who only knows a great number of cases, remembering them word for word, has gained little unless he has mastered the principle running through them all, and I do not doubt that one case thoroughly understood would be more valuable than a hundred simply remembered. Here, again, the man who studies carefully the wants of society will have an advantage in the study of law, for he will have learned what rules are most useful in the actions of man, and when he knows this, he has, very likely, learned the

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law. As an eminent lawyer remarked, "I hear my client repeat his case. If I think he has done a wrong, I tell him the law is against him, and I seldom find myself mistaken." It is surely the power to think that is useful to a man, and this may be gained without books, though certainly, if read with care, books would be a wonderful assistance as well as a never-failing source of pleasure and delight. WM. G. MAXWELL.

NATIONAL CHARACTER IN THE FACE.

THE human face is the mirror of the soul. Upon its lineaments are written in legible characters the emotions and passions which rule the man. Innocency illuminates the face of the prattling child, and love that of the mother. The hoary-headed man of kindness carries the index of his character in his face. The face of the debauchee tells of the vile soul within.

In studying the faces of the past, it seems that every age impressed its peculiar crimes and virtues, its hopes and struggles, on the countenances of its great men. The soul works upon the plastic substance of the body, and changes the architecture of its palace till death brings separation. Like the bee, it fashions its house. Behold the face of a Webster, Sumner, or Seward, and then that of a thief that lives in the alleys of our cities. There is as much difference as between the stately palace of Fifth Avenue and a dilapidated hovel on a back street.

Like the coral insect that builds the reef, this in-dweller of the body slowly, but surely changes its habitation. It writes its own character on its exterior walls, displaying its holy aspirations or its low degradation. The steady mind speaks out through the face; the fickle mind varies the countenance; the struggle of right and wrong is shown on the common index. The face is an incarnation of the Manichean dream, the ancient mystery of Evil wrestling with Good. The faces that one sees around him are but a drama; a battle-field whereon is displayed the fierce struggle, sometimes ending in a tragedy, sometimes in a triumph. The many passions and emotions that find place in the minds of the people of the world, leave their trace, to be modified by succeeding ones.

The warrior becomes stern and imperious; the nun meek and forgiving; the miser sordid and earthy. Like Lady Christabel, of Coleridge's poem, who is obliged involuntarily to imitate the serpent-glance of the witch, men are obliged to portray their inner self upon the face.

Different nations are surrounded by different circumstances; and, hence, each has a cast of countenance peculiar to itself. The thoughts of the members of the same nation are evolved by similar causes, and the cast of face must be alike. Also, by the cultivation of different branches of intellect, different characters of physiognomy are developed. The artistic pursuits of the Greeks gave them the most ideal heads and faces. The intellectual pursuits of professional men produce faces of sharp outline and of beauty The cruelties practiced by Roman emperors gave those emperors faces of ugliness, bearing likeness to the modern prize-fighters. The weak have a hard, round head, and small chin of the age of Louis V.

But there is another point; national physiognomy changes with the revolutions of society, and indicates the prevailing tendency of morality or intellectuality of the time.

The portraits of the past do not resemble those of the present, nor do they resemble each other at different ages. This difference has been attributed to costumes, dressing the hair, and to other causes. These modifying accessories are not all the agents at work to produce this difference. Shave the face of ex-President Grant, put on his head a powdered wig, and he would not resemble the men of the Georgian era. Dress Mr. Fish like a Chinaman, put a queue down his back, and he would not resemble a Chinaman. The architecture of the palace of the soul has changed, and the immortal dweller displays a different being.

The age in which Chaucer lived was one

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of monkish seclusion for those who studied, and military for the mass of the people. Chaucer's portrait has been handed down, and his face indicates his character. His head and countenance are abstracted; he, with others of his class, have an air of secluded and dreamy meditation. They were chiefly of the clergy, and that same face is now seen among Roman priests to a certain extent.

Beginning with Queen Elizabeth and extending down to 1625, there is another change in the features. The Reformation was a vivifying element that entered into the lives of the people. Slumbering humanity was awakened; the priests were overthrown in their influence; human sympathies and feelings were aroused; it was an age of new freedom with great expectations of the future. The mind wrote this new life in the faces of the great men. Shakspeare, Bacon, Sidney, and others display clearness and intelligence in their countenance, not to be compared with the monastic appearance of Chaucer's age. Civilization branched out over many lands; broad views seized the people; commerce extended its province, and the nation flourished. In this age the oval form of the skull makes its appearance, with the broad forehead, keeping the lower face in subjection.

The wars of Charles the First's reign produced another modification. Melancholy then takes the place of clearness, mingled with a firm resolution to stand by principle. The look is troubled as if the deluge of blood had covered the land. The sad, stern face, depicts what pen can not portray. But just as soon as a reaction took place, the cast of countenance changed, and in the reign of Charles II. a scintillating brightness is displayed, without deep feelings and profound and inspiring yearnings. Beginning with the Revolution of 1688, a new era dawned in England. Poetry, enthusiasm, and religious mysticism gave away to sober thought.

In the next age following, the face begins to deteriorate. Man began to feed his sensual nature, and the face changed. The lower jaw began to show the animal. The mouth is sensual. Feeding the animal at the expense of the spiritual became the rule of life. Then the brow began to slope and the chin to project; the features to become coarse and mean. This face was not improved till after the breaking out of the French Revolution. This warmed the people into a new life. Immediately the face began to improve.

The features of our own Revolutionary fathers differ from those of their descendants. The Revolutionary face indicates an entire devotion to cause; self-absorption in one dominant thing; an outlook into the heaven of some majestic inspiration—a look which indicates men of original conception. But the faces are not of the highest standard. General Washington's features are humane and intelligent, but have not the individuality which indicates a man of genius.

The faces of to-day are of another cast. For the last half century a change has come over the American countenance. Fierce conflicts have been waged in this country, giving the face a serious expression verging into sternness, as seen in the countenance of Abraham Lincoln, Andrew Johnson, Jefferson Davis, Robert E. Lee, Stonewall Jackson, and others. In fact, all the great men of this nation have this austere cast of features. This expression is seen in the faces of our business men. A self-determination to go right on and achieve success is the prevailing spirit that animates the countenance.

The American physiognomy is made up of two elements. The first is the influence of education on native Americans whose stock dates back to the time of the Revolution. The other is that produced by immigration. The former gives a more oval face, a higher and fuller forehead, smaller and firmer lips, a nose more straight and more noble. The latter presents a round irregular head, larger at the base than at the top; the brow, thick, low, and sloping backward, the nose coarse and big, the mouth fleshy, lax, ponderous, and earthy.

In the true American type the intellect beams in the penetrating eye, and sits in majesty on the broad forehead. The faces of our great men are noble. They indicate a zeal of the Cromwellian period—civil, not religious. Their spirit is working not for

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the simplest utilitarianism, but for the future, sublimated by ideas of progress and an ultimate perfection, which open before them depth after depth of unfathomable promise. These are our leaders. This is the American type. The other type displays a spirit which says: "To the victors belong the spoils." These men look only to self, and labor for personal aggrandizement. Sensualism, of the grossest and most unsympathetic kind, rules their life. This extinguishes, beneath its dullness, the fine flame of spirituality; and the intellect becomes hard, bony, and mechanical. The mark is fixed on the features.

The statement of a writer of note, lately made, that the American face is approaching that of the aborigines, is incorrect in all particulars. The face is more beautiful now than a hundred years ago. With the ameliorating influence of civilization the American face will improve, though retarded by foreign implantations.

DARIUS H. PINGREY.

THE PENTAIL.

AMONG the extraordinary animals which are found in Asia and Oceanica is that which is represented by the accompanying engraving. It has been named pentail, on account of the remarkable elongation and character of its tail. This animal is a native of Borneo, and was not long since brought to the notice of the European zoologists by Mr. Low, of England. In many respects its body resembles that of a rat; is small, but appears to be of greater size than it is, on account of the extreme length of the tail, which appendage is devoid of hair except at and near its extremity, where it is furnished on both sides with a row of stiff hairs which stand out like the barbs of an old-fashioned quill pen. The remainder of the tail is covered with scales, square in form like those of the long-tailed rats. The color of the tail is black, while the bristly hairs are white. The animal, on account of this singular attachment, presents a very peculiar appearance to the observer. The body of the pentail is covered with a fur of extremely soft texture, and of a dark-brown tint on the upper parts, fading into a yellowish gray beneath. The tint of the fur appears to be changeable according to the way in which it is brushed or exposed to view; and this peculiarity is due to the tips of the hair being tinged with a yellowish cast.

A specimen of the pentail which was captured by Mr. Low, in the house of the Raja Sarawak, is preserved in the British Museum.



PENTAIL OF BORNEO.

Zoologists are of opinion that the long tail possessed by this animal is used for the purpose of balancing itself when moving among the branches of trees. The habits of the animal, however, are not yet fairly known. The character of its teeth ally it to the tupaias; and we think that it may be safely placed among that large class of small animals known as rodents.

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HOW TO TEACH.*

THE FACULTY OF LANGUAGE.

ITS HISTORY, ANALYSIS, AND CULTURE.

THIS faculty enables man to communicate, by means of articulate and inarticulate sounds, not only his thoughts, but his feelings and sentiments. To talk is natural, but the special style of speech is artificial and conventional.

NATURAL LANGUAGE.

Before and beyond speech there is a natural language of motion, attitude, gesture, and expression of features. There is also a natural language of inarticulate sounds, which is common to all tribes of men, and some of these inarticulate sounds are made by the lower animals. The groan is universal. It does not need classical learning to appreciate it. The lowest human being on earth, the wildest savage, appreciates it as readily and accurately as the wisest philosopher. The sigh is bounded by no lines geographical or political. The laugh everywhere on the globe is the same. Even animals understand this, and the groan and sigh correspond to the voices of many of them. The laugh is peculiar to man. The child of the German, the Italian, the Spaniard, the Frenchman, the African, the Patagonian, and of the Choctaw, cry alike. So that the groan, the sigh, the cry, the laugh, are universal language, and do not need to be learned. They express the same wherever heard, and need no explanation.

Birds have a language which they understand. We call the gabbling of geese, the chattering of magpies, and the clatter of sparrows mere racket, but there is no doubt they communicate pretty clearly with each other. Dogs, cats, horses, oxen, lions, tigers, and wolves express by sounds ideas which they comprehend. They may be simple; but if a wolf wants help to attack a man or a horse, his bark expresses it to all the wolves within hearing. There is an intelligence among animals, and facility for communicating with each other, which far surpasses the general belief on the subject.

When the hen, proudly, happily, and anxiously, steps forth from her first nest, with her brood of chickens, she gives a motherly "cluck," at frequent intervals, and the chickens seem to understand it. To them it seems to say, "Come, this is the way. Here am I. Here is protection." Finding some morsel of food, she gives a sharp, short call—the first time she ever uttered it, and the first time the chickens ever heard it. They comprehend it instantly, accept its meaning, and however much they may be scattered from the mother, they run. Where? Under her brooding wings? No; but to her beak. Each one knows that there is a precious morsel to be had, and that there is the place to find it. And within the first hour after the mother has left the nest with her brood, she will scratch, and the chickens will run to see what she has found. They will answer her call as we have stated. And if she gives the warning of danger from the hawk, one outcry will make every chicken hide in a moment. Not one of them is in human sight. They have instantly crept into some crevice, or under a leaf, out of sight of hawk and man. Then the

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hen cackles in alarm, and as long as she continues it they keep hidden; but the moment the danger is over, and she gives forth again her motherly utterance, the first "cluck" brings every chick from his hiding-place. Shall we be told that these birds, inexperienced as they are, do not understand their mother? That the sounds she utters are not thoroughly intelligible to them, and that, too, the first time they are heard? We think chicks are a good example for children in respect to implicit and instant obedience. So much for natural language.

ARTICULATE AND ARTIFICIAL SPEECH.

In this connection we have chiefly to do with articulate and artificial speech. Speech of some sort is natural to men. The different tribes and nations of the earth have languages with more or less generic resemblance, but which, on the whole, are different. It seems a little singular that any healthy, normal, well-developed man on this planet, should meet another man, well-endowed with similar faculties, and they not be able to communicate with each other; but let them stay together and each man will learn the other man's language. Two lions, tigers, wolves, dogs, eagles, hawks, geese, hens, or sparrows would understand each other. Perhaps the different tribes or varieties of lions, wolves, dogs, or birds might not communicate so as to understand each other. Let the German and the Englishman meet, and they will not be long together before each will learn how to express his wants in the other's native language. A child born into a family, or if adopted into one with a language different from that of his father and mother, will, in two years, understand nearly everything that is said to him, and be able to communicate his thoughts with more or less freedom and clearness; and in five years the child may have learned five languages, and speak each with equal facility. We who speak it do not wonder that an English child learns the English language, or that a German child learns his mother-tongue; but when a child is favored with an English-speaking mother, a French governess, a Spanish nurse, a German cook, a Swedish waiter, and a Russian coachman, we find that he will pick up all the languages and speak them with rapidity before the sixth birthday. Elihu Burritt, who is called "the learned blacksmith," learned to read fifty-two languages, by studying eight hours a day for many years, while he worked on the anvil eight hours, and spent eight hours in sleep and recreation; but a child, with its inexperience, and immature life, and without culture, can pick up more than one language a year for the first five years, if it has an opportunity.

The vowel sounds—a, e, i, o, u—are found in all languages. When we come to the consonants there is more of the artificial, or conventional. The German finds it difficult to pronounce, as the English do, the sound represented by the letters *th*. The Frenchman and the African will give the sound of *z* or *d* in the room of *th*.

A single, national language seems to be very definite; but certain it is that all people of a given nation do not understand words in the same way. There are shades of meaning which a man of one temperament and organization will apply to a word, and other persons will understand it a little differently, because they differ in their organizations. The word "courage" does not mean the same thing to a timid, craven, cowardly person that it does to one who is brave, generous, and magnanimous. The word

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"fear" has an intensity of meaning to one who is excessively developed in Cautiousness, and who has a highly-wrought Mental Temperament. But to a man who is hardy, healthy, well-organized, broad in the base of the brain, and not very large in the upper back-head, recognizes in the word fear something that is to be guarded against, of course, but it does not excite in him such emotions as it does in the person organized on a more sensitive and excitable pattern. Love, hatred, pride, ambition, beauty, elegance, respectability, generosity, are words full of meaning to those who have great strength in the mental elements out of which these sentiments grow. The words great, small, rough, smooth, pretty, ugly, are understood measurably by every person of common intelligence, but what different shades of meaning they attach to these words! The man who is accustomed to cut granite, or to hew logs of timber, or to construct turnpike roads, uses the word smooth with a much more limited meaning than he does who is a steel-engraver, a silver-plater, a goldsmith, or a piano-case maker.

The facility with which one speaks that which he thinks and feels indicates the function of the faculty of Language, but the style or characteristics of the language which persons use is, of course, varied and colored according to the temperament, strength, and peculiar combination of the other faculties. A man with large Self-esteem and Firmness will become familiar with all the words born of dignity, authority, and power. One who is large in Destructiveness and Combativeness will become master of, and give special emphasis to, the words which relate to force, courage, severity, and acrimony. One in whom the Social Organs predominate will learn all the lore of love, friendship, and affection; will have all those adjectives at his tongue's end which savor of sociality, or serve to illuminate those faculties which minister in that domain. Those in whom Approbativeness is large will speak eloquently of respectability, of good society, of style, elegance, and whatever ministers to ambition, and will be adepts in the use of those words which carry the unction of flattery. One with predominant Veneration and Cautiousness will speak of the fear of God, and will dwell painfully on "the terrors of the law." A man with large Secretiveness, combined with Cautiousness, with less Combativeness and Firmness, will be specially familiar with, and employ with great effect, all words which relate to fear, anxiety, solicitude, policy, and guardedness of conduct and expression. He will learn how to shave a subject very closely without hitting it; how to go gracefully around those crooked, unsavory phases of life which may not be laid open or exposed. In short, he will learn how to talk and say nothing; and how not to commit himself. Will button-hole a man and take him to some out-of-the-way place, and whisper suggestions, instead of uttering courageous and manly facts and opinions. Whereas, with small Secretiveness and Cautiousness, and large Self-esteem, Combativeness, and Firmness, the person will drive right onward in the outspoken expression of the very core of the subject; will talk loudly and not care who hears him. Those in whom Mirthfulness is large will be free and ready in the language of wit. Those in whom Ideality is large will be inclined to speak of the beautiful, the sublime, and the poetical; will incline to exaggerate and employ the superlative degree of comparison. To them, things will be perfectly splendid, gorgeous, and august.

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Persons destitute of the poetical and imaginative faculties will be calm, accurate, dry, very realistic. Their style of language will resemble a grape-vine in the month of March, pruned close to the trunk; while one with the imaginative faculties strongly developed, will have a style resembling a grape-vine in the month of August, with its umbrageous foliage and laden with fruit. He knows how to develop from the dry stick of truth a great deal that is flowing, showy, and fragrant.

Those who are largely developed in the reasoning organs are inclined to use words that are solid and ponderous. They will speak realities. Their language has sturdy verbs and nouns. Webster illustrates this style in his masterly speech in the Senate, in reply to Hayne, of South Carolina, when he uttered those great, heavy words, rich in meaning, but without a semblance of decoration:

"MR. PRESIDENT: I shall enter on no encomium upon Massachusetts—she needs none. There she is—behold her, and judge for yourselves. There is her history; the world knows it by heart. The past, at least, is secure. There is Boston, and Concord, and Lexington, and Bunker Hill; and there they will remain forever. The bones of her sons, fallen in the great struggle for independence, now lie mingled with the soil of every State from New England to Georgia; and there they will lie forever. And, sir, where American liberty raised its first voice, and where its youth was nurtured and sustained, there it still lives, in the strength of its manhood, and full of its original spirit. If discord and disunion shall wound it; if folly and madness, if uneasiness under salutary and necessary restraint, shall succeed to separate it from that union by which alone its existence is made sure—it will stand, in the end, by the side of that cradle in which its infancy was rocked. It will stretch forth its arm, with whatever vigor it may still retain, over the friends who gather around it; and it will fall at last, if fall it must, amidst the proudest monuments of its glory, and on the very spot of its origin."

On the other hand, those in whom Language is large, and all the perceptive organs are strongly developed, are apt to have a redundancy of descriptive words, which unfold and give varied shades of meaning. The famous Irish orator, Phillips, attended a banquet in his native country, at which an American gentleman had been requested to respond to the sentiment, "America." In resuming his seat the American offered the sentiment, "Ireland and her orators." Mr. Phillips, being then Ireland's most popular orator, was called upon to respond, but of course he could not appropriately speak of Ireland and her orators, though he could illustrate the fact that Ireland had orators, and that he was one of the best of them; but as he was responding to a sentiment offered by an American gentleman, he must speak of America, and he uttered himself in this florid manner. The reader will observe the redundancy of adjectives:

"AMERICANS: You have a country vast in extent, embracing all the varieties of the most salubrious climes. The exuberance of your population is daily divesting the gloomy wilderness of its rude attire, and splendid cities rise to cheer the dreary desert."

If we lop off the beauty which these adjectives impart, and reduce it to sober nouns and verbs—give it a Websterian turn—it would read: "Americans: You have a great

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country. Your people are cutting down the forest, and erecting houses in its place."

A man who is cultivated, so that he will understand the best use of words, will talk with propriety and correctness; but his style will be in accordance with his mental organization, or according to the group of faculties awakened by the subject. Webster had Ideality and Comparison largely developed, and when his theme awakened those faculties, he could employ elegance of diction, combined with strength of thought. That beautiful passage of his in relation to Bunker Hill monument, so familiar to every school-boy, will never grow old:

"We wish that this column, rising towards heaven among the pointed spires of so many temples dedicated to God, may contribute also to produce, in all minds, a pious feeling of dependence and gratitude. We wish, finally, that the last object to the sight of him who leaves his native shore, and the first to gladden his who revisits it, may be something which shall remind him of the liberty and the glory of his country. Let it rise! Let it rise, till it meet the sun in his coming; let the earliest light of the morning gild it, and the parting day linger and play on its summit."

Persons who are not cultivated, pick up language, but are apt to use it with more or less impropriety. We hear every day persons using language tautologically, and nothing is more ridiculous than this, except that which is absurd. A loquacious son of the Green Isle, whose duty it was to attend a toll-bridge, was directed by the owner, as he rode by rapidly one morning, to put up a notice, saying the bridge is free. Willing to obey the order strongly and heartily, he wrote and posted up this notice: "All persons, of every description, hereafter, for the future time to come, may pass over this bridge free, gratis, for nothing, without paying a cent."

LOCATION OF THE ORGAN OF LANGUAGE.

The organ of the faculty of Language is located in the base of the frontal lobes of the brain, and rests on the arch of the socket of the eye, and when well-developed it has a tendency to depress the arch which constitutes the roof of the eye-socket, and thus press the eye-ball downward and forward, giving to the eye-ball itself a protruded, full appearance, and a tendency to hang over the cheek-bones, and show a sack or fullness under the eye. During life there is no opportunity for a tangible examination of this organ. It has to be estimated by the looks, position, and appearance of the eye. In some persons the eye seems to be sunken in, as if it were small and the socket too large for it. In children, especially, the eye sometimes seems to stand right out, and people talk of "the speaking eye," or "the intelligent eye," and "the expressive eye." A little observation will enable any person, in a group of people, and especially in a school, to see who are the talkers, the whisperers, those who like to communicate, and can not keep the tongue still.

DISCOVERY OF LANGUAGE.

Dr. Gall discovered the organ of Language when he was but a school-boy. He noticed that those who had full and prominent eyes excelled in verbal memory. They could learn lessons and recite them with fluency, while others, including himself, were not able to commit to memory, or remember words successfully. When he left his first school and entered another, he was

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able to point out every one who was his superior in the matter of verbal memory. Of course this was simply the observation of a child. He afterwards learned why the eye was pressed outward. Persons have been known to lose the power of speech in consequence of some disturbed condition of the brain, and after death, dissection indicated a lesion of the brain just over the upper orbitary-plate, which constitutes the roof of the eye.

TALKING EXCITES THE EYE.

There seems to be connected with the process of talking an excitement of the eye We rarely meet with a person who talks well and keeps his eye in a calm and placid condition. There is a flash, a rapid opening and closing of the eye, when Language is excited. A teacher who is a friend of ours, and of phrenology, named Weaver, had a boy in his school whose Language was exceedingly poor. He was a very poor reader and speller, and when he was trying to spell, he would shut his eyes almost tightly together, and keep winking them spasmodically and ridiculously. The teacher asked him why he shut his eyes and puckered them up so when he was spelling, and if he could not spell without doing it? He said he could spell without doing it, but he could not spell nearly as well. Mr. Weaver suggested to me that the excitement of the faculty of Language might affect everything connected with the eye in this boy, and it seems reasonable. If the eye of the orator be lifted when he speaks of astonishment, or it dance with delight when he speaks on subjects that are pleasant and mirthful, is it unreasonable to suppose that the region of the brain, in which the faculty of Language is located, should excite everything that pertains to the eye itself?

WEALTH OF LANGUAGE.

When the organ is large, there is a tendency of the person to put the thoughts and emotions into some expression by means of words. When a child has large Language, and lacks experience and knowledge, it will talk to itself; will use words without much meaning. If it have an active imagination, it will invent words, fables, and stories. If a person have large perceptive organs, he will see everything, and appreciate its qualities and peculiarities, and have fine descriptive talent. Bayard Taylor, with his great perceptive organs, employs his large Language most charmingly in his minute and extended descriptions of scenery, and his letters and books are read with intense interest. Charles Dickens had a superlative development of the faculty of Language, with strong perceptive organs, but still stronger reasoning and imaginative powers; hence his creations of characters, and his eminent ability to depict character in all its detail. He had the power of expressing all his thoughts and emotions. Perhaps no man that England has produced, since Shakespeare, could express himself with equal copiousness, fullness, and exactness. In fact, he took his language, so to speak, twice around the subject. Indeed he festooned it, varying it as he proceeded.

Language is the natural outlet of the mind. It vocalizes emotion; it embodies thought and frames speech into argument; in government it is mandatory; in social life it is persuasive; in love it is tender; in writing and in print it has wings to carry it around the world, and thus crystalized it speaks to the eye, even of the deaf, and embalms the thoughts of the wise and good for all coming time.

NELSON SIZER.

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It is only by training all together—the physical, intellectual, and spiritual elements—that the complete man can be formed.

THE ESTHETICS OF HYGIENIC LIFE.

IN treating of Hygienic life most writers have dwelt almost solely upon its physical effects. The strength and health which a proper diet and regimen give to the body form the substance of their theses, and but few enlarge upon the intellectual and moral happiness which is born of obedience to nature's laws.

The world we live in abounds in beauty; and in the elements of joy and pure, unsullied pleasure.

"Why wait for happiness till you're dead?"

sings the poet. Yet most of our race go through life with downcast eyes, beholding not the loveliness that lies all around them, and trampling on its flowers

"Which sweetly woo them but to spare."

The pleasures of the table—the revels of fashion—the stimulus of wine—the pursuits of cold ambition—these are the sorcerers whose unhallowed spells deaden and darken the mind to nature's pure and holy joys; these are "the strong man" who keeps the palace of the soul, and darkens the windows of its chambers, lest the light and the glory and the sunshine of life should break in upon that darkness and set the captive free.

In our present existence the spiritual nature is so blended with the physical that the one can not know health while the other is diseased. Let a person's liver become torpid, or his stomach be dyspeptic, and his mind at once becomes affected. The idea of the ancients that "black bile" was the cause of melancholy, was not all a chimera or an error, for any disturbance of the digestive organs disturbs the action of the brain, the organ of thought also, and hence arise gloomy reflections, unnatural cravings, despondency, and, too often, absolute despair In such a state of the systems, intellectual and physical, the soul becomes incapable of natural enjoyment, because it is living in an unnatural state. The beautiful landscapes of the sweet, God-made country, its fair hills and lovely valleys, its sunbright meadows and its waving woods, its fairy flowers and its bright waters, its song of birds and nestle of leaves and music of brooks, the rising glories of its dawns, and the fading hues of its "sweet hour of twilight," pass uncared for, unloved, unnoticed, or gazed on with aversion and a sense of dull satiety, because the diseased mediums through which the mind receives and perceives them convey only their deformed and distorted images to "a mind diseased," and are viewed through gloomy mists of pain, anxiety, and sadness.

Alas! to escape from this state of diseased thought and feeling, the victim, erroneously attributing it to *moral* causes, too often takes the worst of all roads by which to fly—the road of intemperance and excess. The seductive "mocker," the wine-cup, offers its temporary solace; it raises the spirits for a season, but only to plunge them into darker, deeper gloom; and the short relief of the midnight revel is succeeded by long intervals of gloom and horror, and like him to whom the evil spirit returned, "the latter state" of the deluded sufferer "is worse than the first." Others fly for relief to the shrine of religion—falsely believing that their evils have their origin in the *soul*, they seek medicine for the spirit, when it is the stomach that has need of the physician. As Rev. Charles Wadsworth once remarked in a sermon, "Men ask their pastor about

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the 'unpardonable sin,' when it is the doctor they should be consulting about their digestive apparatus."

So, now, my poor, desponding, sick, and sorrowing brother or sister, I want to tell you how to rise out of this grave into which your soul has fallen, and to point you to the road that leads back again to light and life, and the enjoyment which the world *can* give to those who follow the guidance of our good, kind mother, Nature. I have passed over that road myself, and it *did* lead me out of the "slough of despond" into the fair "land of Beulah." Come! follow the narrow path; and it will lead you into the "happy land" of health and hope.

Throw away your medicines, your pills, and your powders, your "all-healing balsams," and your "invigorating bitters." Remember that it is your *body*, not your soul, that is at fault. I do not mean that you should neglect your immortal nature—far from it; but to have a healthy *manifestation* of your soul, its present physical companion and vehicle must be renewed and restored. *These* are your sins. You have eaten too much improper food. You have used too many stimulants; you have kept late hours; you have used too little or the wrong kind of exercise. You have brooded too much, and done too little. You have tried to "cleanse your *heart*," but have not kept clean that servant of the soul—the body. You have endeavored to inhale a pure spiritual atmosphere, but have lived and slept amid the impure and poisonous air of great cities, of crowded assemblies, and of ill-ventilated bed-chambers.

Now, as I said before, throw away your drugs. Learn what diet is plain, simple, and nutritious, and contains no exciting and unnatural stimulus, and follow it strictly. Be moderate in eating, and masticate well. Give up *at once* and forever your wine and spirits, your tea, coffee, and tobacco—all deadly poisons to you. Take light suppers, if any; try to get into the pure, sweet, country air, at least for a while. Go to bed at eight or nine o'clock in the evening; rise with the sun. Learn to love "the green lanes of the country," and to *walk in them*. Climb the hills when you get able; search for the sweet wild flowers in their woodland nooks; let the birds of the summer preach to you about happiness in their sweet voices. And let the mountains and the glad free hills, and the fair valleys, and the pure air, and the bubbling brooks, and the sunshine, and the stars, and the blue sky, whisper to you about health and the God who wants you to enjoy it. And you *will* be healed. The mists which veil the beauty and the glory of the world will roll away from the soul when the windows of the bodily senses, through which she looks out upon the materialism of nature, are cleansed and purified from the dust and *debris* of disease; and with "a sound mind in a sound body," as the results of a return to Nature's laws, you will be able to say with the Psalmist, "Bless the Lord, oh my soul! who healeth all thy diseases," and with the restored blind man, "I was blind, but now I see."

B. FRANK TAYLOR,
Wesley Water-Cure.

LETTERS TO A SON IN COLLEGE.--No. V.

ORGANS OF EXCRETION—NERVOUS AND MUSCULAR INTERACTION.

MY DEAR BOY:—In previous letters we have considered the manner and means of the body's nourishment. Now, waste is no less a property of the human body than supply, and a knowledge of the laws and conditions which govern this process is hardly less important.

In all living substances sustenance and decay are in continuous operation. The food which affords the living organism nourishment, after having served its purpose as a constituent portion of its substance, again passes off through the appropriate channels as effete and useless matter.

Thus our bodies, though ever the same, are continually changing, so that it is estimated not a particle of the matter which enters into their composition now, will form

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a constituent portion of them seven years from to-day. The channels through which this effete matter is expelled from the system are five, viz.: the lungs, the kidneys, the liver, the bowels, and the skin. I will confine my observations to the skin, as it is by far the most important as an excretory organ, and as it is so immediately subject to external influences that it is liable to continual abuse through ignorance.

In structure, the skin is made up of three layers: the epidermis, the mucous coat, and the dermis, or true skin. The epidermis, the outermost of the three coats, is a thin membrane which contains neither blood-vessels nor nerves, and is, consequently, like the hair and the nails, insensible. The hand, unused to toil, is tender, but when applied to labor, blisters are usually formed upon it which are caused by the separation of the epidermis from the true skin, and the filling up of the intervening space with watery fluid. If the labor be continued, the hand grows tough because of the epidermis thickening, and thus affording increased protection to the delicate parts beneath. So it is the thickening of the epidermis on the soles of the school-boy's feet which enables him to run. When his shoes were first laid aside, he was obliged to pick his way most carefully. You will perceive in this a most benevolent provision for our comfort; for, were the epidermis, like dead matter, liable to be worn away by contact with another surface, the hand of the laborer, or the foot of the school-boy, instead of growing tougher, would grow tenderer, till the epidermis, having been all worn away, the delicate true-skin would be left without protection, and to this even the touch of a feather is torture.

The second layer, or mucous-web, is the seat of the coloring matter of the skin. It is extremely thin in albinos, and comparatively thick in negroes, being in reality thick in proportion to the depth of color.

The dermis, or innermost layer, constitutes the chief thickness of the skin, and is by far the most important of the three membranes, being the seat of several distinct functions. Of these, a knowledge of the conditions essential to the healthful performance of excretion will be found the most practically useful. The skin, when examined under a microscope, is found filled with innumerable openings, or pores, which are the outlets for the waste material, called perspiration. The excretion of perspiration is going on constantly, in the coldest as well as in the warmest weather, and whether we exercise or remain inactive. When from exercise or high temperature it exudes so rapidly as to form drops upon the surface of the body, it is called sensible perspiration; but when the skin presents no perceptible moisture, it is called insensible. According to carefully conducted experiments, five out of every eight pounds received into the system, pass out of it again through the skin, leaving only three to be expelled by the lungs, the kidneys, and the bowels. This effete matter, being poisonous, anything which hinders its expulsion must appear very injurious. Even the wearing of rubber boots or leggins frequently occasions headache, and a feverish condition of body, and a complete closing of the pores of the skin has been known to occasion death. At the time of the elevation of Leo X. to the papal chair, a child was gilded over with some impervious material to represent the golden age. It died in the course of a few hours in great agony. The cardinals were filled with consternation at this event, regarding it as an ominous sign from Heaven. From our stand-point, we regard it as only a sign of ignorance.

The above estimate in regard to the proportion of waste matter exhaled by the skin has reference only to insensible perspiration. Sensible perspiration is evolved in much greater quantity, so that a vigorous man may lose two or three pounds weight in the course of an hour's severe exertion. If this rapid excretion be suddenly checked by the surface becoming chilled in any manner the consequences are often disastrous. It is a law of the animal economy that those organs which are similar in function sympathize most closely with each other, so that if one is incapacitated from performing its function, the others take upon them the burden of its work. If they are healthy and vigorous, they may bear the superim-

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posed burden without injury. But if they are weak from any cause, this extra strain upon them may disorder their function and induce serious disease.

Thus, if the skin, when perspiring freely, be suddenly chilled, its pores contract and the waste material and the blood, which has been determined toward the surface, are driven inward upon the internal organs. If the bowels be weak, the extra work imposed upon them may occasion serious bowel complaint. If the lungs be weak, catarrh, common cold, or even congestion or inflammation may result. When, however, they are all in vigorous health, they perform the superimposed work without serious disorder, and the skin itself, if the cause of its derangement be removed, speedily resumes its function, and relieves them of extra duty. From this you will perceive the physiological reason for allowing the body to cool slowly when heated by exercise. Attend to the slightest sensation of chilliness in such a condition. If your clothing be wet with perspiration, remove it, or add to it, but be sure that you preserve the skin at its normal temperature.

Another practical lesson to be deduced from the foregoing is the necessity of preserving the surface of the body free from all substances which tend to obstruct the pores of the skin. A person of your vigorous organization may derive great benefit from a daily cold-water bath. Let your room be furnished with a bath-tub or rubber blanket, a bowl of water, a sponge, and two towels. Immediately on getting out of bed in the morning, step into the tub, or on the blanket, and sponge off the body quickly. Then give it a vigorous rubbing with the hand and towel till its surface is perfectly dry, and an agreeable glow has been established. Dress quickly, and, if your sleep has been complete, you will feel thoroughly invigorated for the labors of the day. The cold-water bath is serviceable only where there is sufficient vigor to create a reaction in the flow of blood toward the surface. If it occasion a sensation of chilliness, it had better be discontinued, and recourse be had to friction, or a tepid bath in a warm room.

From the great amount of the cutaneous exhalation, it is natural to suppose that the clothing will retain a considerable portion as it passes through its texture, and, as the skin is an absorbing as well as an excreting organ, this accumulation of effete matter is liable to prove injurious by being again absorbed into the system. Hence the importance of frequently changing and airing your clothing. Never sleep in any garment which you have worn during the day. Give your bedding a good airing daily. Spread out the clothes upon chairs, shake up the mattress, throw open the windows, and, if possible, allow the purifying rays of the sun to lie on the bedding thus exposed. It may be well for me to observe here that sunlight has a most important bearing upon health. Plants can not grow in the dark, and men who work in mines and other dark places look pale and sickly in comparison with those whose occupation exposes them to the sunlight. A medical man asserts that at the time of cholera in one of our large cities, he observed that there were five cases of this disease on the shady side of the street, when, upon the sunny side there was but one. In St. Petersburg, during the Crimean war, the shady sides of the hospitals were so notoriously unfavorable to the sick soldiers that the Czar decreed them into disuse. Do not occupy a room that the direct rays of the sun can not enter, and let your body be exposed to their influence as much as comports with your convenience and physical comfort.

The other functions of the skin would be found instructive and interesting; but as I wish to confine myself in these letters to those organs and functions which are most liable to be abused, and cause us suffering from lack of knowledge to use them rightly, I will pass these, and proceed to a consideration of the muscular system.

The muscles are familiarly known as the lean meat of animals. Each muscle is made up of a number of distinct fibers, and produces motion by the contraction of these fibers in the direction in which they run. Some are circular in form as around openings, and by contracting they close the opening as a purse is closed by drawing the string. A few work like a string over a pulley, and

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produce motion in an oblique direction. In the great majority, however, the fibers are nearly parallel, and motion is produced in a direct line with their fibers. The muscles which move the body are attached to the bones in the strongest possible manner, so that it would be almost as easy to break the bone as to tear the muscle from it. The opposite ends of each muscle are attached to different bones, and, by contracting, they co-operate with the bones in producing motion in any desired direction. Thus the biceps muscle has one end attached to the humerus at the shoulder, and the other to one of the bones of the forearm at the elbow. I will to bring my extended hand to the shoulder, immediately the biceps muscle contracts, the bones of the forearm move on the hinge-joint at the elbow, and my hand is raised to the place desired. The rectus muscle has one end attached at the hip, and the other at the knee, and by its contraction, the leg is raised, as in the act of walking. But every muscle must be supplied with antagonistic muscles to produce motion in a contrary direction. The muscles which bend the arm or raise the leg are powerless to straighten them again. This must be accomplished by muscles upon the opposite side of the arm and leg, and when it is remembered that there are nearly 400 distinct muscles in the human body, we are able to comprehend how unlimited is the variety of movements of which it is capable.

I have said that motion is produced by the contraction of the muscular fibers, or the shortening of their substance in a longitudinal direction. Now the power which causes them to contract resides in the nerves. These have their center in the brain, from which branches are distributed to every part of the body. It is through these that the mind communicates with the muscles and renders the body obedient to its mandates. The dependence of the muscles on the nerves for their motion is well illustrated in cases of paralysis, where, from the pressure of blood upon the nervous cord near its origin in the brain, communication with those parts through which it ramifies is cut off, and the power of motion in them is suspended. Sever at the shoulder the delicate nervous cord which the brain sends to the arm, and it falls helpless at the side. Though the muscles, blood-vessels, and every other part may remain perfect in structure and in communication with the rest of the body, sensation is so completely destroyed, that the arm may be thrust into the fire and consumed without feeling the slightest pain. Muscular contraction being thus dependent on the nerves, it will be found that the strength of muscle will be measured less by its size than by the amount of its nervous stimulus. This principle explains the fact that when laboring under some intense mental excitement, as in cases of fire or imminent personal danger, we are often able to lift up articles which we could not move under ordinary circumstances. It is because of the preternatural excitement of the nervous system that the insane, though otherwise feeble, often manifest a strength far exceeding the power of the strongest to control. The unusual strength, energy, and activity which some men and animals display have their source in a larger endowment of the nervous system. If the heavy dray-horse had the nervous power of the fleet racer in proportion to the size of his muscles, he would be a marvel of strength. Or, if the big shanghai possessed the nervous energy of the little game-cock in proportion to his size, he would not be so often put to ignominious flight by his little rival.

The characteristic of muscular action is alternate contraction and relaxation. A state of permanent contraction is unnatural and impossible, hence there is no more wearisome labor than preserving the body for a considerable time in a fixed attitude. Let any one attempt to hold the arm extended for fifteen minutes, or stand erect and motionless for half an hour, and he will find that the most severe labor would be pastime in comparison. Yet, what is more natural than for the unthinking to suppose that if a person can be upon his feet all day, engaged in active labor, he ought surely to be able to stand still for an equal length of time. This principle of alternate contraction and relaxation explains the apparent anomaly. In preserving any given attitude, one set of muscles is kept continuously on

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the strain, while in active labor they alternate with one another in sustaining the body. Now, one set of muscles is called into activity, and now another, and the one is relaxed, while the other is contracted. Thus, while in active exercise, a muscle may be contracted in the aggregate several hours during the day, yet, by this alternation of contraction and relaxation, it would be less wearied than by half an hour of continuous contraction. The practical lesson to be deduced from this principle is, that we should avoid all constrained positions, because they tend to weaken the muscles and destroy their tonicity. A seat without a back, for instance, is injurious, because it imposes a continuous strain upon the muscles to preserve the body erect, but the muscles, after a time, relaxing from sheer weariness, the body naturally falls forward or to one side, and round shoulders or curvature of the spine is not infrequently the result.

Exercise is another condition essential to the health and vigor of the muscular system. When a muscle is exercised, the vital processes are greatly increased in energy. The blood circulates faster, the nerves take on an increased action, and the processes of nutrition and waste, which are in continuous operation, go on more rapidly, but in due proportion to each other. When the exercise ceases, the vessels and nerves return to their original state. If the exercise be resumed frequently, and not carried too far, this energy of the vital processes becomes more permanent. Nutrition exceeds waste, and the part gains in strength and vigor. If, however, the exercise be resumed too often, or carried too far, the reverse of this takes place; waste then exceeds nutrition, and the part loses in strength and vigor. When, again, exercise is altogether refrained from, the blood circulates sluggishly through the part; the nerves become enfeebled, and the processes of waste and nutrition are imperfectly performed. That degree of exercise, therefore, should be sought which preserves the muscular system in the highest state of health and vigor compatible with the well-being of all other bodily organs; for it should be remembered that harmony of development must always be sought for, and that we may cultivate the muscular system to such an extent as to speedily wear out the vital organs in its service. This is the fate of many of your boating men. They develop great muscular strength and endurance, it is true, but they lay themselves liable to diseases of the heart and aneurismal affections which often cut short life before its duties are well begun. Let me here advise you to avoid all trials of strength and violent muscular efforts. It is an excellent thing to have a strong and vigorous body, but it is an unworthy ambition which seeks muscular strength at the expense of physical health or mental development.

Violent exercise is especially injurious when the muscles have not been prepared for it by previous training. Many students devote their vacations to long tramps to the mountains, or to some other interesting locality, with the idea of recuperating their wasted mental energy. But they fail in their object from neglecting to observe this physiological law. Instead of recuperation, they induce complete exhaustion, and not infrequently serious disease. In my own experience, the playing at ball for a whole afternoon, to which I was previously unaccustomed, so completely stiffened me that I was not able to leave my room the following morning, and was not free from the ill effects of my violent exercise for a week. To derive the greatest advantage from muscular exercise, therefore, it must be regular. You can not make up by forced tramps during vacation for a term of previous inactivity with any better results, than by a period of feasting you can restore the loss of vitality occasioned by a term of fasting. Every day should bring its regular amount of muscular exercise, as of food, sleep, and study. Begin moderately, and gradually increase the amount and vigor of the exercise as your muscles gain strength to bear it. Be not ambitious to make an athlete of yourself; but rest satisfied with that amount of exercise which preserves your muscular system in the highest state of health and vigor, without detracting from the healthful activity of any other function.

It is important also to note that the most

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efficient and beneficial exercise is that which is accompanied by an agreeable mental stimulus. Exercise taken against the will is wearisome, and comparatively useless. But how vigorous and efficient are the efforts put forth when the whole soul is enlisted in the enterprise. Many a youth will set out afoot at the close of a hard day's labor to visit his sweetheart several miles distant, and perform the journey joyfully, and with no sense of fatigue; when, had he been compelled to go against his will, every mile would appear doubled or tripled in length. In your exercise, then, as in all other things in life, have a purpose. If you take a walk, let it not be a meaningless stroll, but be prepared to receive pleasure and instruction from everything which comes under your observation. Study the natural sciences, that you may find something to interest you in every flower, rock, and shrub. You will go forth then with mind alert and active, and full of expectation to discover something new and interesting. An agreeable mental stimulus will thus be presented to the muscles, and you will return invigorated in body and mind.

Activity is one of the conditions of health to every bodily organ, and it is interesting to notice how muscular exercise contributes to the activity of other organs, and thus invigorates and strengthens the whole body. The arteries and veins which are imbedded among the muscles are provided with valves along their entire course which in the former are so arranged as to prevent the blood from flowing backward to the heart, and in the latter from flowing backward to the extremities. When a muscle is exercised, its fibers contract and swell, thus producing a pressure upon the blood-vessels imbedded among them. By this pressure, a force is communicated to the blood, which, being prevented by the valves from flowing backward, is naturally propelled forward with a force proportional to the violence of the exercise. The heart, of course, works faster to keep time with the increased circulation, and the blood being thrown more rapidly into the lungs, they take on an increased action, and induce deeper and more frequent respiration. Waste being accelerated by the exercise, a proportionate demand for nutrition is created, hunger is increased, the stomach calls for larger supplies of food, and the process of digestion goes on more vigorously. The brain shares equally in the beneficial effects of the exercise, because a demand is made upon it for a supply of nervous power proportionate to the activity of all other functions. In muscular inactivity the reverse of all this takes place. The blood circulates sluggishly, and is with difficulty returned from the extremities to the heart, against the force of gravity. Breathing is diminished, and the blood in consequence is imperfectly oxygenated. There is little waste, and little demand for nourishment. The appetite in consequence fails, or, being pampered with stimulating food, the stomach is burdened by an excess of work, which, wanting the co-operation of other organs, it lacks the vigor to perform. Nervous action becomes fitful and weak. Languor, irritability, and despondency often characterize the individual, and serious disease is not infrequently engendered. The best time for exercise is about the middle of the forenoon. The food eaten at breakfast has then reached the circulation, and the blood carries a full load of nourishment, ready to supply the waste of exercise. Nervous power, also, is then abundant to give energy to the muscles. If exercise be taken immediately after a meal, the blood and nervous energy, which should be concentrated on the stomach, have to be divided between that organ and the muscles, digestion is in consequence ill performed, and the exercise is robbed of a good share of its beneficial results.

The best kind of exercise is that which calls into harmonious activity the greatest number of muscles. You can not develop one part of the muscular system by the exercise of another part. If bound in a chair, for instance, a man might develop great strength in his arms and shoulders by some occupation which would call them into vigorous exercise, but his lower limbs would at the same time become puny and feeble from inactivity. Dumb-bells and Indian-clubs are excellent for developing the arms and trunk, but they need to be combined

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with the spring-board, a walk, or a run, to secure a harmonious development. Perhaps the exercise most suitable to your circumstances, as you have physical labor to perform, would be a half-hour with dumb-bells and Indian-clubs in the forenoon, and a five-mile walk in the afternoon. This would give every muscle all needed exercise, and with due regard to other functions, preserve the whole physical system in a state of vigorous health.

With these observations on the muscular system, I must draw my letter to a close. I hope I have fully impressed you with the importance of what I have written, and that you will enter upon the practical application of the precepts which I have laid down with a zeal which is the outgrowth of knowledge, and a perfect willingness to acquiesce in whatever will contribute to your highest physical welfare. Affectionately yours,

PATER CONFIDENS.

VEGETARIANISM IN ENGLAND.

IN England some of the more earnest of the vegetarians have organized a "Dietetic Reform Society," the principles of which, as may be inferred from the following letter, are very thorough in discountenancing animal products. The letter is addressed to the New York *Tribune*, the writer saying:

I am the father of the President of the "London Dietetic Reform Society," and am by no means ashamed of my son, nor yet of his doings. He appeared at the banquet of the society, which was held in the People's Café, St. Paul's Churchyard, in strictly vegetarian costume, all animal products, including even silk, being rigorously eschewed, not because he held it to be unlawful to shear a living animal, and to array himself like a wolf in sheep's clothing, but simply as a practical and visible reply to the taunts of the inveterate, unreasoning beef-eaters who keep repeating the parrot-cry, "How could you get on without leather?" . . . . . I am not ashamed to imitate my son, and frequently appear by his side in full vegetarian costume, on the various London platforms. We should "link to our chariot the horse that can pull;" and if a whim can do that, we will harness it right off and give the signal to go ahead.

We have instituted the "Order of Danielites," with the programme of abstinence from fish, flesh, fowl, alcohol, and tobacco, and we think we are destined to lead many to study the laws of health, and reform their butchers' bills. Our first garden—the Garden of Eden—has been in cultivation several months, and we think a great future is before us. We aim at enlisting all advanced thinkers under our banner, and some also who hate to think for themselves will, when they see we are likely-looking men, and that we don't look as if we meant to die just yet, rally to our standard for the sake of being in good company.

We say that at the Creation, when the happy pair were placed in the Garden of Eden, fruits and grain were all that their Creator saw fit to feed them upon; and when, in an evil hour, they fell from that state of blissful innocence, no addition was made to their dietary. "By the sweat of thy face shalt thou eat bread," was the curse pronounced—not flesh, not snakes, not carrion; no—no dead carcasses to pollute the life-blood and introduce divers diseases and sundry kinds of death—but bread, grain, fruit. And when the divine command required the slaughter of a poor little innocent lamb, as a substitute for sinful man, the idea was to fill his soul with shuddering pity as the fatal blow was struck by the heavy club that afterward slew the protomartyr Abel. How soon was man led to pass from violence to lambs to brutal murder; and then those sentiments of compassion, which exist by nature in all mankind, were speedily stifled and silenced, and the earth was filled with sons of violence, who killed to gratify an unnatural and depraved appetite, who ceased to sympathize with the suffering victim, but lusted for its blood, until divine mercy was wearied out and pronounced the solemn decree, "The end of all flesh is come before me," and the process of peopling the earth had to begin again. Then was Noah commanded to gather unto him

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all food for many days, not to make a store of salt provisions (by the way, scurvy is impossible to vegetarians); nor yet in taking clean beasts into the ark by sevens did it mean that he was to eat them, for one of each sort was to be slain as a sacrifice as soon as the exodus from the ark was accomplished and three pairs were to be let go free.

Yet when the bow had been set in the cloud and the promise given, and what is thought to be permission, for the first time to man to feed on slaughtered beasts, I find that the original (Gen. ix. 3) does not justify the authorized version, but only permitted the eating of snakes. I should like some eminent scholar from your side the water to give me a literal translation of that and the two following verses, for they are important and mysterious, and I should like the new version, which is now being prepared in the Jerusalem chamber, to be accurate in that respect.

I dare not pursue the theme further, or tell how we have discovered that Paul was a vegetarian — that Nazarites in general were so too—that Paul's well-known exclamation—Rom. xiv. 21—goes far beyond our English version, etc. I am, sir, yours in all truth and sincerity,

THOMAS RICHARDSON.

London, March 8, 1877.

GROUNDWORK OF HEALTH.—No. III.

WE are not yet in a condition to dispense with slavery. Slavery has its uses in the grand economies of nature. Proceeding upon this hypothesis, let us examine the first proposition. Freedom and slavery can not be treated as abstract conditions independent upon the surroundings. It is only the one-idea people that fasten upon such absurdities and create "unpleasantness." So-called progress is making haste slowly; or, in other words, working out patiently the problems of life and sociology. Now and again, at long intervals, a meteoric intellect flashes across the human horizon, and with its white heat and light, forces out of normal conditions the affairs of men; but these can not be regulated by the spasmodic powers thus developed. Only the steady, persistent, lifting shoulder to shoulder, of all the sturdy workers in the field of humanity can advance one spoke of the real chariot of progression.

In the grand arena where the battle of freedom is being contested, the weaklings go down like dry grass before the fire. But this does not prevent others coming forward to fill their ranks. For our part, it has become a settled purpose to parcel out and separate the combatants and their several fields, so that each can choose the proper foeman — the one worthy of his steel. There is nothing more certain than that there is as wide a difference in the combatants, as in the arenas which they occupy; yea, wider than between the Coliseum and a rat-pit. If the Titans consent to descend to the latter, all we can say is that they will be sadly cramped! Man originated in the tropics; as population increased, and room was required, the weaker were driven each way to less equable climates, until he was pushed out of the normal condition of his origin, and compelled to subsist upon other than his natural food. This change of foods and surroundings changed the nature of man until it made of him a savage. Now, knowing this, why not endeavor to recover the natural and lovable character we have every reason to know he possessed previous to these outgrowths? Of course this slavery to appetites and passions is made convenient to the few, yet greater happiness is possible to these latter than is generally opined under a regimen of "freedom" to the many. While not contending that mankind are ready for universal emancipation, we do contend for that system of education that best fits for all the rights of suffrage and the broadest liberty. Then the "good time" so many talk about, and so few realize the meaning of, will be drawing nearer. Until the world can be brought to consent to education in its true and best sense (not the sham education now in vogue), slavery,

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all kinds of human slavery, will be a necessity. Moreover, as a sequence, disease, disorder, intemperance, and debauchery will be in the ascendant, simply because the conception of happiness is based upon the abnormal conditions created by pushing mankind out of his natural sphere.

F. M. S.

SCARLET FEVER—SCARLATINA.

THIS exanthem is more common than others, but in proportion to the numbers of its subjects it is not more fatal than diphtheria or cerebro-spinal meningitis. In all epidemics of scarlet fever there are different manifestations of vital resistance to the poison the same as to every other inimical thing. Medical authors divide it into three types, viz.: simplex, anginose, and malignant; the differences, however, exist in the subjects, and not in the seed poison. This is proven by the fact that a person whose system is in a foul condition when exposed to the contagion of small-pox from one who had it very lightly in the varioloid type, will develop all the horrid manifestations of the disease in the confluent form, and die; while another, whose habit of body is more hygienic, may be exposed to the confluent type, and escape with only a slight functional disturbance, exhibiting scarcely more than a disagreeable headache for a few hours. I speak of this from my own personal knowledge, and doubt not that many others have made similar observations. There can be no question that scarlet fever in the malignant type is due to the unhygienic condition of the subject of it. Were this fact fully realized in a community where the poison germ prevails, it would lead to a system of hygienic prophylactics that would stamp out the poison as shown in the malignant type of the disease, and greatly mitigate it in the anginose form. In the scarlet, then, as in all other causes of vital disturbance, the gravity of the type depends on the condition of the subject; and that explains why all epidemics are severe or mild; the general hygiene of a neighborhood being worse or better from causes which affect all more or less in common; but, fortunately for mankind, epidemic poisons seldom seriously affect more than one in ten in a particular locality, although special local causes or unhygienic habits may subject a whole family to the fatal consequences of the poison. It would tend to no profitable end to go into lengthy descriptions of the symptoms that occur in this or any other fever in consequence of permitting the excessive heat to prepare the impurities in the blood to serve as mediums for the development and reproduction of the seed poisons. If the heat is kept at the normal standard from the beginning of the exalted action, no symptom will supervene which could enable the most astute diagnostician to name the poison germ that is causing the disturbance, whether it be that which induces the phenomena of scarlet fever, measles, small-pox, diphtheria, or cerebro-spinal meningitis. I have had such experience in this matter as to fully satisfy me of the truth of the above statement, and if any physician would know for himself, he need only try the experiment of keeping the heat of a scarlet fever or measle case constantly at the normal standard, and he will find that at no time during the vital disturbance will there be any skin symptom that would enable him to tell one exanthem from another. Let no one think, however, that the labor is trifling that holds the vital heat of a child in scarlet fever at the normal standard.

If tepid water is used for the cooling process, there must be a great amount poured over the trunk through the folded sheet or bandage. If the fever cot is not to be had, and if there is no way of preparing a bed so as to do the tepid pouring, the sheet or bandage must be dipped often in cold water and applied around the trunk; but no other treatment equals the pouring of water that is but a few degrees below the normal temperature of the blood. It is impossible to know just how the exanthem case is doing without the frequent trial of the heat by a good fever thermometer. The reservoir

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thermometers will not lose their register, and are best on that account. Judging from my own experience, which has been very large in scarlet fever, I can confidently affirm that no person possessed of an ordinary amount of vitality can die of the fever, or be subjected to any serious results from the effects of the poison, provided the heat is kept at the normal standard and equalized from the beginning of the fever.

As great care must be used in keeping the extremities warm and moist as in holding the heat of the blood at the normal standard by the pouring of tepid water over the trunk. I dwell on the importance of the pouring of tepid water over the trunk to remove excessive heat, because in my treatment of all fevers I have found it so very difficult, in fact almost impossible, to keep the patient's heat at the normal standard of 98° by the employment of cold water at short intervals; while it is effectually done by the almost constant dripping or slight pouring of tepid water.

If it is borne in mind that the *cooling of the blood* is the "one thing needful" in all fevers, it will be seen why the cold treatment as practiced in Europe, and to some extent in this country, has saved so many lives. To prevent the tonic and derivative effects of extreme cold upon the skin, the best practice in all severe cases of fever is to employ water at a temperature but little below 98° by pouring it over the trunk through a thickly-folded bandage or sheet. For regulating the heat of the feet and legs, they may, in extreme cases, be wrapped in flannels or woolen blankets, and hot water poured over them, provided the bathing cot or a suitable bed be used; but in ordinary cases of scarlet and other fevers the heat of the lower extremities can be regulated by frequent sponging with warm water, taking care to wrap them well with dry flannels or blankets, or to apply rubber bags of hot water. The rubber bag, covered with flannel, is the only way in which scalding hot water can be safely used about a sick person, as the common jug or bottle is liable to lose its cork or break, and thus deluge the bed and scald the patient; and many accidents have occurred by using heated bricks. If the bowels are not free, warm water should be used by the syringe.

It is but a few minutes' work to make woolen bags that can be drawn over the hands and arms of the fever patient, and they may be kept dry by moving the arms away while the tepid pouring is performed through the sheet over the trunk.

In closing my remarks on the treatment of scarlet fever, I would say, *regulate the heat*, for the poison germ can do no permanent harm if the heat of the blood be kept at the normal standard and equalized during the time the heart and lungs are in exalted labor to expel the poison; and, to make all safe, a few things ought to be in the possession of every family in the land, viz.: a bathing cot, a good thermometer, two flannel-covered rubber bags for boiling water, a syringe, a supply of bandages to envelope the trunk, and pieces of flannel cloth for the extremities. With these appliances a family is prepared for any emergency; and by the time their physician arrives, they will have placed the patient on the road to recovery.

G. W. KIBBEE, M.D.

THE ALLOPATHS.

I WISH that all the allopaths
Had all their sins forgiven,
And were translated from the earth
To highest seats in Heaven!

And all their books of medicine,
And all the drugs they mix,
Were ferried far, and finally
Beyond the river Styx!

The pleasant herbs that healthful grow
On every happy hill,
God has ordained to aid the sick;
But calomel will kill.

May light be given with coming years,
And hygienics rule,
And only history record
There was another school!

A. ELLA GREENE.

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THE ONION TRIBE.

The Philosophy of Food—Medical Properties of Onions—Horse-radish—Mustard and Asafetida—Many Authorities—Medicines not Food—Onions Properly Cooked—Varieties—Hygienic Disuse.

Recipes: Stewed Onions—Strawberry Pudding—Strawberry Pie—Cocoanut Mush.

THE PHILOSOPHY OF FOOD.

THE human body is a house in which the soul lives, and a house which fits to the soul far more closely than any house of brick or wood fits the tenant that lives in it. It is a house, too, which can not be changed; we must live in it as long as we live at all here in this world. Of course, then, every thinking person should be not a little interested in the kind of building material that goes to make up this house. Whatever he puts in of the food kind is so much raw material, which affects the character of the house, and no sooner does he realize its importance than he becomes very curious to study into the matter.

I very well recollect that some years ago, not long after I began to call the attention of others to this subject, when in fact I was just commencing a series of articles on "The Philosophy of Food," in a Western magazine, a friend, an LL.D., who had taken quite a fancy to the topic, remarked, as we were sitting down to dinner one day, with company: "Yes, I like this idea of the philosophy of food; it opens a wide field for investigation; for example, suppose now we inquire into the medicinal qualities of the onion."

You may imagine my consternation, and what a broad subject, indeed, I felt as if I had upon my hands. Should I tell the learned gentleman that food and medicine were two very different things? that it was not a question of restoring lost health, but of maintaining health and of imparting the right amount of nutriment in a wholesome and agreeable manner? Indeed, I felt so forcibly that the bottom of the whole argument had fallen out, and that said gentleman, and perhaps all those at the table, would need to learn their alphabet over again before going into this subject, that I concluded to maintain a judicious, if not a brilliant silence. I believe the times have changed since then; if they have not, my audience certainly has, and I take it for granted that the subject can be narrowed down into discussable limits, if not to a dinner-table topic. But since the

MEDICAL PROPERTIES

have been called for, suppose we take a glance at them, and perhaps some light may be thrown on the general subject. One of the first things we shall find is that the onion tribe has most decided medical properties, unlike the most of the common fruits, grains, and vegetables about which we have been talking. Excellent authorities make its composition to be mucilage, albumen, fibrous matter, water, and oil. The latter is the distinguishing characteristic of the entire tribe to which the onion belongs, but is strongest in the garlic, which is therefore generally used for the purposes of extraction. Strong as we generally consider the garlic, it requires one hundred weight of it to produce three or four ounces of the oil. This is a dark brownish yellow in appearance, and heavier than water. It contains, like other essential oils, both carbon and hydrogen, and it has, in addition, a small proportion of sulphur, to which it owes its peculiar smell. It is known as sulphuret of allyle—allium being the generic name of the plants. Of the intensity of the odor of this oil, we leave those to judge who have appreciated the fact that it requires from twenty-five to thirty pounds of garlic to produce a single ounce of it. It is this oil which resists the powers of digestion and assimilation in the human system, and, retaining all its characteristics, finds it way out through all the usual avenues of secretion and excretion, tainting everything with its offensive odor, until at last it is all expelled. It is a very common, but a very great mistake to suppose that this is due to the presence of the onion in the stomach. It is the oil unchanged in the blood, thrown out through the breath, perspiration, and excretions. To the presence of this oil is due all the wonderful medical properties of this class of vegetables.

So penetrating is this oil, that even when

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the garlic or onion is applied as a poultice, the small amount of oil thus taken in imparts its odor to the breath, urine, sweat, and even to the taste. Its properties are a wonderful list. It is called a stimulant, diuretic, expectorant, rubefacient, tonic, irritant, carminative, etc. If given in overdoses, it produces flatulence, hemorrhoids, headache, and fever. It has come to be mostly rejected for internal use. When the hull is applied as a poultice, it often produces violent pain, inflammation, and sometimes blistering. When eaten freely, it produces a stimulating effect, thirst, and activity of the various excretory organs. It is a little surprising that after all this it is not called a poison; but in almost the same breath it is coolly said that onions do not agree with all persons, especially with dyspeptics—that they affect in the same way all who eat largely of them.

All this certainly sheds some light on the natural characteristics of the onion, especially with respect to its medicinal properties. But even this is not all; the onion claims kindred, through this remarkable essential oil, with several other articles, used mostly as condiments.

HORSE-RADISH, MUSTARD, AND ASAFETIDA.

It is this same oil which gives pungency to horse-radish and to mustard, and we may add their medicinal properties also. There is, however, in their case another ingredient, called cyanogen. The same substance, with the addition of another proportion of sulphur, is the essential oil that gives character to the plant known as asafetida. Most people know of the reputation of the dried juice of this plant for high odor, though they may not also be aware of the fact that the natives of Western Asia use it as a condiment with as much relish as the Frenchman uses his garlic or the Spaniard his onion.

"Coarse," you say, "uncultured, barbaric;" and we say yes, and so is the use of any substance which proclaims itself out of all the pores of the body. It is essentially coarse, and there is no help for it, as I see, but to become intelligent as to its real properties. The great rule of a right diet is to use nothing as food, or with our food, nor to take into the alimentary canal anything but alimentary substances, including, besides, their natural débris, which passes off by the proper channel.

We have vivid recollections of the coarse impressions made upon a youthful mind when in the spring of the year, after the wild leeks had made their appearance, a single Indian would so taint the air of a room that it would soon become unendurable, showing a lack of culture as marked as that of the old red cow, who often brought us milk that was equally unendurable. It is essentially a barbaric practice, whether Indian, bovine, Dutch, French, or American. It is true that

MANY AUTHORITIES

can be quoted to show that the onion is a most wholesome vegetable; that it is considered one of the best specifics for scurvy; that it was sent to our poor soldiers in the South during the late war in large quantities, and with excellent sanitary results; that the Spanish or the Italian peasant who makes his dinner on an onion and a bit of bread, can work longer and better than the beef-fed English navvy, and, more than all the rest, that a great many people like onions. But what does all this prove? Only that onions are better than no fresh food; better than salt food. It is true also that onions can be transported in good condition to warm climates better than many other vegetables. It is very possible, too, that onions and bread make a better diet than beef and bread. I am very certain that I should much sooner risk onions than pork. But it does not follow that onions are better than most other vegetables, and there are excellent reasons for thinking that they are not so good as most others. One of the best of these reasons is that it is medicinal, that it has qualities which excite to strong action different from ordinary food. It is acknowledged to be a stimulant.

MEDICINES ARE NOT FOOD,

and we do not wish to eat medicines. There is no question but that there are substances which contain both wholesome and unwholesome elements, those which

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are both poisonous and nutritious; but why should we eat them so long as we have an abundance of those which are purely wholesome? If people are suffering with scurvy, and we can get onions to them in larger quantities, and more expeditiously than other things which may be as good or even better, why, send onions, of course. But if we have exaggerated ideas of the onion, compared with other vegetables or with fruits, it might happen that we should send onions when we could send something better. It is certainly best to understand the matter.

But such emergencies are, after all, but a minor part of the case. Onions are largely raised and eaten for every-day fare, and very often precisely because they are considered wholesome. It is true that in modern society, and among people who have some regard for the amenities of life, they are kept for rainy days and for days when the eaters do not expect to see company. But, then, if one is called out unexpectedly, or has some dear friend come to see her, she feels in a most awkward dilemma. Custom requires that she should offer the kiss of welcome to such a lady friend. If she does it, she will make herself repulsive; if not, she must apologize, and of course give the reason, which is almost as bad. If it is a gentleman, he too may perceive it, even at a distance, and it is really very embarrassing to ask him if he does so, or to apologize. Why, then, not cut the gordian knot by leaving the offending article entirely out of the dietary? "Oh, but I do love onions!" is the response you will hear to this question, "and then they are so healthy! I eat them whenever I get a chance."

The best reply others can make is a sneer at modern wisdom. They ask us if we think we know so much more than those people who lived hundreds of years ago, and we can only reply that if we do not, we ought to, for we have all they knew to build on, and we ought certainly to add something to it. Physiology is almost as much of a modern science as chemistry. It is a science also which depends upon actual discovery and experiment. It is not many centuries since we learned of the circulation of the blood, and any considerable acquaintance with the nature and process of gastric digestion dates back not over fifty years. The question for us to consider is whether we shall profit by these discoveries of science.

If you are fearful of losing your favorite onion entirely, we may perhaps comfort you by saying that it can be very greatly improved by being

PROPERLY COOKED.

This is not the only instance in the vegetable world where poisonous and nutritious matters are mingled in the same product, as we had occasion to mention in the case of the potato; and tapioca is a still more noted instance. The volatile oil of the onion is, we believe, the only thing objectionable, and much of this can be driven off by boiling. That much of it does often pass off in that manner, is evident enough to any one who comes within long range of the onion-boiler. It is diffused through the air, and fixes itself obstinately on many porous objects with which it comes in contact. Its vapors ascending from the kitchen often pervade the whole house, and greet the entering guest in a most offensive manner. The house, and especially the room in which onions have been cooked, is often not deodorized in twenty-four hours, and the stale odor is worse, if possible, than the fresh. All this can not well be avoided, unless you have the odors carried up chimney—a very good thing to do, but hardly worth the while for the sake of having onions to eat. If the boiling is continued from one-third to one-half longer than usual, the oil may be so nearly expelled that they will affect the breath but very slightly. In this condition they are about as wholesome and as nutritious as turnips. If any think that they will then pay for all the annoyance of the odor in the house, they must be their own judges; but if they ask me, I should beg them to forewarn me what days they would be cooking onions, so that I might remain away. In frying, the oil is still more offensive, and as the cooking is done so much more quickly, it does not have time to be so thoroughly removed, and yet the extraordinary fondness of some people for fried onions is so great as to suggest to any thoughtful person that

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it is unnatural and hurtful. I once knew a lady who could not avoid fried onions if they were on the table, though she knew very well that she would suffer for every mouthful; and another, who would occasionally prepare them for herself and eat them with rare gusto, only to be laid up by an inevitable fit of sickness of two or three days' duration. It is often urged in excuse that the amount of this acrid oil is small; but we see that what it lacks in amount it makes up in intensity. There is much less of it in the same weight of onions than in garlic, and yet the little that escapes in peeling the latter, so poisons the eyes that they secrete their peculiar lubricating fluid copiously. This is nature's method of preventing this acrid volatile oil from injuring the delicate texture of the eye. But this does not entirely prevent it, and the eyes often feel the effects of it for hours, if not for days afterward. It is well, then, if onions must be peeled, to sit in a draught of air, which will take away the floating oil as much as possible.

Baking onions is less objectionable on account of the odor in the house; but if the oil does not escape, it is still in the onion, and it is therefore still more objectionable for food. Another proof of the strength of this oil is the length of time which it will cling to the knife with which the bulbs are peeled. Washing, and often scouring, fails to take it off; so that where onions are much used, a knife is kept for this special purpose. Other utensils are often thus set aside, and thus in various ways we see that it is so foul a thing, and that we really put ourselves much out of the way in its use. An item has gone the rounds of the papers that "onions are good for wakefulness: eat two or three small ones before going to bed." That may be proof that they are "medicinal," but no proof whatever that they are good for food.

VARIETIES.

We will admit, however, that there are very great differences in onions in this respect. As the garlic is much stronger than the onion, so some kinds of onions have far more of this poisonous oil than others. In general, the red onions have much more of it than the yellow, and the yellow more than the white. It is also true that those grown in warmer latitudes and in warmer soils are milder—other things being equal. It is said that the famous Egyptian onions, which the children of Israel remembered with so much regret, when they journeyed in the wilderness, were probably very much more delicious than any we can produce. We have some imported onions which are milder than the native grown. It is also said that if we give two seasons to the growth of our bulbs, they will be greatly improved in flavor. It is even said that we can rival the Spanish onion in this way. Let the seeds be sown late, or where they will attain but a small growth the first year, and then set these small onions out the next spring and they will make large, handsome, and mild-flavored bulbs. Some cultivators always save their small unmarketable onions and use them in this way. The potato-onion is cultivated in this manner, and it is generally considered milder than many other sorts. A red onion is scarcely fit for anything but soups. Here its high flavor goes a long way. Even then it is a disagreeable thing to handle. I would almost as soon have a moist fish in the kitchen for high bouquet.

HYGIENIC DISUSE.

Many people who have made a study of the hygienic use of food, have discarded onions entirely from their dietary. In some hygienic institutions they never make their appearance. It is true that they are "vegetables," and just here comes in a valid objection to the use of the word "vegetarian" in its accepted sense. There are a great many poisonous things in the vegetable kingdom which no one thinks of eating; and there are a great many more in the ordinary dietary which ought to be turned out, such as peppers and spices. And would I then prohibit the use of the onion? Not exactly; but I would open the eyes of every one to its true character, to its noisomeness and its hurtfulness, so that they would no longer wish to eat it. That is the true method of procedure with regard to all dietetics; the inhibition must come from one's own intelligence and self-denial, or it is of small value and will not be permanent, and we must

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know these things for ourselves. If we depend on what the doctors say, or on what this or that authority says, we shall veer around like any weathercock; but if we weigh, examine, and judge for ourselves, there is some hope for permanence, and this is the only proper method for reasoning creatures.

RECIPES.

STEWED ONIONS.—Have the hands, knife, and onions wet with water while peeling them, or peel them entirely under water. Place them in a tin or a porcelain-lined kettle (keep some old tin for the purpose) with plenty of water and boil rapidly, at least one-third longer than the time usually allowed; toward the last, cook more slowly. Do not change the water, for this would waste much of the nutrition and gain but little with regard to the oil which goes off with the steam. Stew down the water until it is creamy; dish this for a dressing to the onions. If you have nice fresh cream, add a little to the dressing and pour it over them as you dish them, but do not scald the cream. Or use, instead of the cream, a little oatmeal milk, added before the onions are removed from the fire; use no butter, pepper, or salt. If well cooked from one and a half to three hours, according to the kind, they will not taint the breath perceptibly, though that is more than we can say of the room in which they are cooked.

STRAWBERRY PUDDING.—Cook one half pint crushed pearl barley for one hour in three half pints of water in a double boiler; then measure a quantity of hulled and cleaned strawberries, equal to the bulk of the cooked barley, and sweeten to the taste, either with sugar or with finely-chopped golden dates. The sourer sorts of strawberries will bear the necessary cooking better than the more delicate sorts. Bake fifteen or twenty minutes, according to the heat of the oven, and serve cold.

STRAWBERRY PIE.—Make a crust of "A" oatmeal by wetting it with one-fourth water, letting it stand five minutes, and roll it out carefully to one-eighth of an inch thick; line an oiled pie-dish with this and place the dressed berries on it. Have already cooked some of the best coarse oatmeal, one part in six of water, in a double boiler for two or three hours. Then strain off the thin part hot upon the berries, already laid in the crust, barely covering them; set at once into a moderate oven, and bake mostly on the bottom for twenty minutes. If the berries are very sweet and tender, the crust may be baked first, being very careful not to scorch it, and the berries and oatmeal milk may be put in afterward. Serve cold.

COCOANUT MUSH.—Place in a double boiler any of the kinds of whole, crushed, or cracked wheat with the quantity of water required to make them of the thickness when done which suits you best. (By the way, if this is a matter not yet decided by yourself, better decide it at once, measuring carefully, so that you will know how to proportion every time hereafter). Pearled wheat will be the better for cooking as much as four hours; cracked pearled wheat, three hours; and crushed wheat, from forty to sixty minutes. When fully set, stir in with each, one heaping spoonful of desiccated cocoanut to each half pint of the raw wheat. This will make a mush which will be good enough to eat without any other dressing. When molded and eaten cold with cream or milk, it makes a dessert or a supper dish quite rich and delicate enough for any one. Let it be put into small ornamental molds, turned out upon a saucer or dessert plate, and sweet, well-ripened strawberries be added with the cream, and you will have a dish handsomer, better, and more appetizing than the most delicate charlotte-russe. JULIA COLMAN.

TESTS FOR SOAP.—The soaps in use for laundry purposes, and in fact for all purposes, are largely adulterated. One of the tests of impurity is the cheapness of the article, but that does not apply to all cases. Two or three experiments easily tried by the housekeeper are these:

The so-called Spoon Test.—A good quality of soap sometimes shows dark and light shades, but it soon changes into a dark shade if a spoonful of soap be held over a spirit or other flame, and although it becomes soft, it does not, if good, become liquid, as occurs with an inferior quality.

Separation by Salt.—Weigh a certain quantity of soap, and cut it into small pieces, allowing it to melt in a pan of water placed over the fire, adding a handful of salt to the water, and allowing it to boil. The soap-lather should not run over the pan, or overboil. Now try and see if the soap allows itself to be easily separated from the water; if not, add some more soap till this takes place, when the whole may be allowed to cool, skimming off the lather, drying, and weighing it. As in the previous case, the loss of weight between the first and last weighings represents the adulterations of the soap.

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RECORD OF SCIENTIFIC DISCOVERY.

To Render Wood Incombustible.—Since it has been discovered that cloth can be made almost indestructible by fire, we see no good reason why wood can not be treated by a similar process; and, if practicable, we may yet have houses with their contents entirely fire-proof. The Boston *Journal of Chemistry* says that it not only can be done, but that it has been demonstrated by the most rigid experiment that wood immersed in a "pickle" of a solution of tungstate of soda can not be ignited under any of the ordinary conditions to which it may be exposed. The tungstate is made by the addition of tungstate to lime of hydrochloric acid and salt, affording as a by-product chloride of lime in large quantities. The action of the tungstate upon soft woods is to render them quite hard as well as incombustible, and it also acts as a preservative against dry-rot.

Sticks and boards of the prepared wood have been saturated with kerosene oil and set on fire; the oil burned off entirely without igniting the wood. Two small houses have been built, one of ordinary pine wood, the other of the prepared wood, and fires of great urgency kindled in each. The one of ordinary wood was quickly consumed, while the other was left only slightly charred.

Pseudo-Gold.—There are many imitations of gold, the best coming from France. A recent attainment in the same line consists of 100 parts by weight of pure copper. 14 zinc or tin, 6 magnesia, 3.6 sal ammoniac, 1 8 burnt limestone, and 9 cream of tartar. The copper is first melted, then the magnesia, sal ammoniac, limestone, and cream of tartar in powder are gradually added separately. The whole is kept stirred for half an hour, the zinc or tin being dropped in piece by piece, the stirring being kept up till they melt. Last of all the crucible is covered and the mass kept in fusion for 35 minutes. The scum being removed, the metal is poured into molds. The alloy is fine-grained, malleable, and takes a high polish. It does not easily oxidize.

More on the Blue Glass Illusion.—General Pleasonton and his followers have insisted that one important property of the blue ray obtained through colored glass is its exciting electric action in the human body. This assertion has been made in the face of well settled scientific opinion on the actinic qualities of the different colors of the spectrum.

Prof. James Dewar writes of some recent experiments in the last number of *Nature*. Fish, lobsters, frogs, rabbits, pigeons, and even humanity itself, were subjected to these experiments, which consisted in applying one pole of an electric circuit to some place in the back of the neck, and the other pole to one of the eyes. A galvanometer was introduced into the circuit. In most of the experiments the animals were quieted with anæsthetics. When the apparatus was arranged, light was suddenly admitted, and the result, as shown by the galvanometer, was an immediate increase of the flow of electricity. The process was also tried with variously-colored lights, the spectrum colors and those obtained by the use of tinted or absorptive media. The invariable deduction is that the electrical excitement is simply proportioned to the amount of light. The most luminous rays have the greatest power, yellow much exceeding the other colored rays. Counting the power of yellow at 16, that of green-blue is only 10; decided blue, 7; light blue, 5.

Insect Nerves Correspondent with Development.—The nervous system of the *Hymenoptera* (bees, wasps, ants, sawflies, etc.) has been studied by E. Brandt. He describes certain pedunculate bodies whose development, as originally discovered by Dujardin, correspond with the degree of development of the instincts and intelligence in the different species. Brandt's researches now enable him to prove that this is the case also for the different sexes of the same species. Thus in the worker of the honey bee they are of immense size, while they are slightly developed in the queen and in the males.

French Notes on Luminous Flames.—According to the *Journal of Science and Art*, Dr. Karl Hinmann has published an elaborate discussion on this subject, in which he concludes that the theory of Davy must be altered, but need not be replaced by a new hypothesis. From a discussion of the work of previous observers, and a variety of experiments on the diminution and restoration of luminosity in hydrocarbon flames, and on the distance between flame and burner, he arrives at the following conclusions:

(1). The fact that a gas flame does not rest upon the burner, nor a candle-flame upon the wick, as also the fact that a flame never directly touches a cold body held within it, is to be explained by the cooling action exercised upon the gas by its surroundings The combustible gases are cooled throughout a definite space below their ignition-temperature; the flame is therefore extinguished. This conclusion is opposed to that of Glochmann.

(2). The very considerable distance noticed between the burner and the flame of a gas issuing under high pressure, or mixed with a large column of an indifferent gas, can not be accounted for on the grounds put forward by Bonevides. The production of such a distance is much rather to be traced to the cooling action of the stream of gas and of the outer air, and perhaps more especially to the fact that the velocity of the stream of gas in the neighborhood of the burner is greater than the velocity of propagation of ignition within the gas.

(3). In order that other circumstances con-

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ditioning the effect may be removed, the velocity of propagation of ignition must be equal to that of the gas-stream at the point, situated some distance from the burner, where the flame begins.

Determination of the velocity of ignition should be made under these conditions for different gases; and since this magnitude is a function of the difference between ignition and combustion temperatures, conclusions may be drawn from such experiments regarding the relations existing between these points.

(4). The velocity of propagation of ignition may be easily determined for solid and liquid combustible bodies; and the numbers so obtained may be regarded as comparative quantitative expressions for the liability to ignition of these substances.

Weight of an Atom.—On the absolute weight of atoms, M. J. Annaheim's conclusion is that in dilute solutions of fuchsine, 0.00000002 gram. of the substance can be detected by the naked eye. If we assume that in a drop of the solution there is one molecule of fuchsine, and at least this amount must be present, the weight of an atom of hydrogen would be 0.000000000059 gram. A similar experiment with cyanine gave similar results.

Reclaiming the Colorado Desert.—At a meeting of the Academy of Sciences, Dr. Wozencraft, the originator of the plan to reclaim the Colorado desert, was introduced and gave an interesting account of the scheme. According to his theory the desert was once a portion of the bed of the gulf of California, but the deposits brought down from the mountains by the rivers formed a bar that eventually cut off the waters at what is now the head of the gulf, and what remained was gradually evaporated. The desert has been shown by the surveys of Lieutenant Williamson to be over 70 feet below the level of the ocean, and by turning the waters of the Colorado into irrigating canals around the borders of the desert, the land can be utilized for agricultural purposes. By thus reducing the temperature a rainfall will be caused over the desert and the adjacent counties of San Diego and San Bernardino in California. Dr. Wozencraft expects to obtain assistance from the Federal Government in carrying out his project, and has sent bills to be introduced before the next Congress, providing means for prosecuting the work.

Dr. Johnson, of Baltimore, in *The Monthly Microscopical Journal*, suggests the following simple plan for making mounts for the microscope stage well-centered. After cleansing a slide, choose the better surface for the object. Center the slide upon a turntable, with the better side down, rotate the table, and at the same time trace with a pen a circle in ink. This dries in a moment, is an easy guide to the preparer, and can readily be washed off, whatever treatment the slide may receive.

AGRICULTURAL HINTS.

[The mind is the man. Farming, in the highest sense, is not simply doing the hard work necessary. This can be done by muscle when directed by brains. The true farmer is he who can plan, direct, and control skillfully.]

As this department is one which should contain the most recent gleanings of wisdom and experience, our readers and friends in the rural districts are invited to send us any items of value to agriculturists in general, and which should have a wide circulation. Due credit will, in every case, be given to the contributor.

How to Choose a Farm.—We find an excellent digest of the points to be considered in selecting a farm in the *New York Times:* "In selecting a farm it is necessary to determine previously the special object for which it is sought. There are some lands that are absolutely worthless at any price as compared with others. There are tracts of sandy land covered with scrub oaks and stumps, that may be purchased at ten dollars per acre, that are really worth less than nothing as compared with lands of fair quality and ready for cultivation at one hundred dollars an acre. Quality of the land is the first consideration, and quality consists in texture and productiveness of soil; a certain retentiveness as well as permeability of the subsoil, by which the permanence of fertility and natural drainage are secured; a surface properly adapted to farm operations, whether these be ploughing and cultivation of crops, or pasturage of live-stock and supply of water. Upon the texture of the soil depend the ease and cheapness with which it may be worked, and, in some degree, its productiveness. A heavy, tenacious clay is a very costly soil to work, and although when thoroughly worked and well manured, is one of the most permanently fertile of soils, yet it is only by skillful management that it can be made profitable. A clay loam, based upon limestone, is an easier soil to work, and may be made equally fertile and as permanently profitable as a heavy clay, at less cost. A lighter soil than this, having a greater proportion of sand, but yet not coming under the character of a sandy loam, with a sub-soil of clay not very retentive of water, is the most profitable soil to work under all circumstances."

How to Raise Celery.—Formerly, says a writer in the *American Cultivator*, it was thought celery must be planted in trenches, and this expensive method had a long following; but now our market gardeners plant the seed in rows, with onions or other

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crops; and after the first crop is out, they commence earthing up the celery. It may be sown about the first of May in the open ground, or earlier if hot-beds are used. As the seeds are very small, they require but light covering, and the seed-bed should be made fine and rich. Celery is a hardy plant, and will stand a low temperature; it loves a cool, moist atmosphere. The young plants should be transplanted into the blanching rows as early as the middle or last of June, for early use, and during August for winter use. Some cultivators recommend later transplanting, to run a plow twice in the same furrow, and in opposite directions, making what farmers call a dead furrow, and to fill it with well-rotted compost. Rows should be three feet apart for the dwarf kinds, and the plants ten inches from each other in the rows. The earthing-up process should commence early and be continued at frequent intervals. This earthing should only be done when the plant is dry, and in the early stages, is best done by clasping the stems with one hand and packing the dirt closely around them with the other; afterward it may be done with a hoe or a spade.

Leaning Trees.—Often in a fine orchard we find one or more trees leaning over so far as to destroy the beauty of the whole orchard. It is also much more difficult to cultivate around a leaning tree. This may easily be remedied, while the trees are young, by partially digging up and replanting the trees. The roots will usually be found smallest on the side from which the tree leans; and, therefore, these roots should be loosened from the earth, the tree set in a perpendicular position, and carefully fastened by stakes and guys and the earth replaced around the roots. It would be well to add some rich compost to promote their growth. If, as is very probable, the top of the tree has become one-sided it should be pruned so as to restore the balance. In this way we have "righted up" pear trees six inches through the stem; but the best way is to look after the young trees and not permit them to depart from the way of uprightness.—*Journal of Horticulture.*

Salting Cattle.—The *Country Gentleman* published a letter in which some points with regard to feeding cattle with salt are discussed. The writer takes the ground from his own experience, that salt is altogether unnecessary. He says: "There is another class of farmers who think the matter scarcely worth mentioning, because the idea that cattle need salt is to their minds perfectly absurd. They never salt their cattle. That very close observer and careful experimenter, L. S. Hardin, of Kentucky, is among the latter class. I am among those who have been taught that cattle should be salted, and either place salt where they have free access to it or give it to them in their feed every day.

"An experiment was made by Mr. Willard Turk, of Portland, to see exactly how much salt per day each dairy cow would consume throughout the year. He reports that they will eat (when they have free access to it) from three to five ounces per day each; that they will consume less in June, or when the grass is young and tender, than in July, and less in July than August. The quantity of salt eaten by a cow is also varied by her being in milk or being dry. When giving milk, she requires more salt. His conclusions on the whole are that the drier, older or harder the grass (or other feed) is, the more salt the cow needs to assist to carry on the digestive process—everything else being equal.

"Last November, at the request of Mr. Hardin, I placed my four pet Alderney calves and six yearling Alderney heifers on their usual winter diet, minus the salt. This was kept up till the first of February. They had been in the habit of eating all the salt they wanted, from the time they began to eat hay or grass, at a few weeks old, till November; and then from November till February first, not having one grain of salt.

"Almost every one here prophesied that they would not do well. But I have never had ten head of young animals winter any better. When, on February 1st, we gave them salt, they appeared to be just moderately pleased with it, and ate it with the same relish as if it had been their weekly or daily allowance."

What becomes of the Nitrogen?—In the course of more than twenty years of experience, a prominent writer has ascertained that harvest plants do not by any means take up all the nitrogen which has been put into the soil in the form of manure, or of ammonia, or other concentrated substances. Even if land be manured with the same amount of nitrogenous matters, and the same plants be cultivated, not half of the nitrogen is abstracted from the manure. Of the remainder, a certain part is to be met with in the form of ammonia in the drainage water, and a considerably large amount occurs therein as nitric acid, a large part of the nitrogen being abstracted from the manure in this way.

Make your orchards your poultry yards. Fruit trees and poultry have an affinity for each other in more ways than one. The busy chicks find every bug, worm, and egg that sooner or later work harm to the trees, and their droppings enrich and promote a healthy and vigorous growth. Clip their wings if they exhibit a desire to climb for fruit.

Cheap Poultry-Yard Fence.—Set posts firmly in the ground, six feet high, and eight feet apart. Take No. 9 wire and stretch it from post to post outside, fastening with staples of wire driven into the posts. Take lath, lapping under wire two inches. This makes a cheap, durable, and pretty fence seven feet and ten inches high, and is fowl tight. The wires should be left somewhat slack, as interweaving the laths will make it up.—*Poultry World.*

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MRS. C. FOWLER WELLS, *Proprietor.*
H. S. DRAYTON, A.M., *Editor.* N. SIZER, *Associate.*

NEW YORK,
JUNE, 1877.

EXPERIENCES AND PROSPECTS.

WITH this number the sixty-fourth volume of the PHRENOLOGICAL JOURNAL closes, and a half year in which many events of great importance in public and private life have occurred. The reader can glance back and recall calamities by railway, by fire, by flood, which have made whole communities a scene of mourning. Nations have been in grievous perplexity over difficulties internal and external. Our own nation passed through an ordeal in February which tested to the foundation the soundness of our political system and the integrity of our statesmen. In Europe the jealousies, reproaches, and suspicions which at first were expressed in protracted diplomatic negotiations have culminated in the outbreak of war, and for the hundredth time, perhaps, in modern history, the Turk is set in battle array; but now he is forced to the defense of his name and place as a European nation. His Mohammedan intolerance may be urged as the pretext for the advance of the armies of Russia, but the intelligent observer of Continental affairs would impute the offensiveness of the Slave to his imperious requirement of an unobstructed outlet to the Mediterranean, with perhaps other commercial advantages, which it would be civil death to Turkey to accord peaceably. The situation is an exceedingly critical one. But it is most fervently to be hoped that the counsel of wisdom will stay the rash hands that would precipitate a general war. In the struggle as it is, may our nation exhibit exemplary prudence in her relations with the belligerents.

In the contentions of nations we see represented on a grand scale the warring of the mental faculties; excited propensity rearing itself against the amiable motions of moral sentiment; selfishness and malignancy repelling the mild overtures of prudence and reason. Education, refinement, moral culture, bring about in the individual that mental balance which manifests itself in a harmonious, continent life, and in the nation the elements of harmony and disorder preponderate, according to the degree of the general culture of the people.

In our own country the administration of perplexing social and political questions has been marked with so much calmness and forbearance on the part of both those in authority and the people, that we have reason to be grateful and to feel more confident in the strength of the popular sentiment of peace and good-will. In some sections trickery and demagogism have too long exercised an almost absolute sway, but the masses are beginning to realize their blindness in submitting to men intent upon personal aggrandizement, and are moving to bring about a change in official quarters, which shall subserve public interests and promote private enterprise.

Although the return wave of industrial and commercial activity has not set in with that fullness which many had predicted, yet the outlook is encouraging to all whose pursuits have place in the great circle of human

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usefulness and interdependence. The mills of New England are responding to fresh demands for their fabrics; the diligent mechanic is resuming his place by the bench or the forge; there are rumors of a large influx of immigrants from Europe during the summer, and of an increased demand abroad for the products of our factories and fields. These things are certainly encouraging. Meanwhile it will be our aim to promote a healthful, robust activity of mind and body by offering to all who will read such counsel for their guidance in sickness or health as the facts of Phrenology and Physiology may supply; and with the opening of volume sixty-fifth, we hope to find that our efforts are appreciated by an increasing list of readers, and that the gospel of mental and physical health will have a wider scope.

DECREASE OF CRIME.

IN one of the articles of this number allusion is made to the persistence of criminal impulses in human nature, notwithstanding the general advance of civilized society in moral tone. Deeds are committed now and then whose atrocity is as shocking as any recorded in the ages past; but the difference between A.D. 1500 and A.D. 1877 in the number of malign wickednesses is very considerable. A hundred years ago conduct was tolerated in the best circles which to-day would be regarded as very improper, if not disgraceful. The style of literature most affected by fashionable society in the time of George II. and George III., when Richardson, Smollett, and Fielding were to the public what Wilkie Collins, George Eliot, James, and Holland are now, would not be countenanced to-day in a circulating library having good claim to a decent reputation. A hundred years ago a man having the appearance of being in good circumstances could not travel at his will through the country as he can to-day, except at the risk of robbery or personal harm. To-day the laws are administered with better effect, and people at large entertain kind sentiments for the stranger who bears not the manner of the shiftless vagabond. Crimes which curdle the blood are usually traceable to causes which are avoidable by the methods of intelligent culture. Congenital defects, ignorance, vicious associations, and intemperate habits constitute the bulk of these causes. It is to us one of the most encouraging features of modern progress that the relation of organism to character and conduct is a subject whose careful study occupies the attention of many of the best scientists. Many results of practical benefit to asylum and prison usage have been obtained, and the increasing interest in the matter must lead to further improvements.

Society can not be too well informed on matters which vitally affect mind and body. The facts which lie at the foundation of human existence, and which exercise a determining influence upon the individual for weal or woe, should be trumpeted abroad. How we make or mar our mental fortunes and the lives of our children should be taught with the utmost freedom. "The truth makes free." The man who is enslaved by his propensities is the most miserable of wretches. That same man, emancipated by a knowledge of himself, and the developed exercise of reason and the moral sentiments, may prove a most useful member of the community. If we can enlighten the masses with respect to themselves—show them how their vices and irregularities are due to improper training and unbalanced physical conditions—we shall bring about a revolution in criminal statistics, and almost deprive the judge and the jailor of employment.

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WILLIAM A. MUHLENBERG, D.D.

IN the life and death of this eminent man, we have an exemplification of the nobility and efficiency of practical Christianity. Professedly a minister of the Episcopal Church, his spirit was nevertheless of that true catholic sort which embraces everything human in its purview of benevolence. Dying at eighty, he was still in the harness of active service, laboring, as he had been during the greater part of his life, for the welfare of the poor and for the relief of the suffering. All classes of religionists, with a rare unanimity, join in commemorating his virtues and beneficence; and in contemplating this general expression of esteem and regret, the impression deepens, that notwithstanding their assumed creedal differences, prejudices, and bickerings, Christian denominations at the bottom are pretty much the same, and in the person of Christ recognize a common leader and a close bond of fellowship.

Dr. Muhlenberg will be remembered as the author of the sweet hymn, "I would not live alway," which has a place in every church collection, and also as the founder of St. Luke's Hospital, in New York, and of the Society of St. Johnland on Long Island. He came of a family of distinction, was a clergyman by inheritance—his grandfather, Henry M. Muhlenberg, being the founder of the German Lutheran Church in America. He entered the ministry of the Episcopal Church in 1817, became rector of Holy Communion, New York, in 1846, and continued in that relation until his death. He possessed fine practical abilities, and used them with great efficiency in the prosecution of his philanthropic enterprises. Mr. Bryant says: "He lived for St. Luke's and St. Johnland, and his earnestness in their behalf was not less than it might have been if the end had been of a more usual kind. Other men have given liberally out of abundant means to charities; he gave his lifetime to them. Other men have accumulated wealth that they might found hospitals; he accumulated the hospital fund as such, never owning it, and therefore never giving it. The charitable institutions which he founded were to him what family and friends and personal property were to men generally, and dying as he did, as a poor inmate of St. Luke's Hospital, he died a grandly successful man, a man who had set himself difficult tasks, and had accomplished them fully."

TOO MANY PHRENOLOGISTS!

A CORRESPONDENT writes: "From the reports published of the educational work of the American Institute of Phrenology, I infer that twenty or thirty persons annually receive the benefit of the instruction given under its auspices. It seems to me that the field will, ere long, be taken up if the majority of the Institute graduates become lecturers and teachers of phrenology."

A like intimation has been received before, but has not been considered specially, for the reason that it seemed to us to have been expressed without a review of the subject. Our correspondent, doubtless, is sufficiently acquainted with the practical bearings of phrenological science to feel its high importance as an agent of human enlightenment, and, therefore, will acknowledge the need of its general promulgation by the methods known to civilization, the teacher, the text-book, the periodical. Now, as compared with the numbers that crowd the professions of law, medicine, and pedagogy, how many active phrenologists are there? Scarcely one to eight hundred. We are

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told that the pursuits of law and medicine are overcrowded, and yet each year witnesses the addition of thousands of young men eager for the honors those pursuits are thought to confer. The medical schools of the United States annually license two thousand men and women to treat the diseases and sicknesses of the public; and we presume that all the States admit to their respective bars annually at least as many new-fledged lawyers. As for the candidates for the teacher's function, their name is legion. There are normal schools which have upon their registers upward of five hundred students each. One we wot of in the West has over a thousand. Now the list of phrenological graduates is something like three hundred in the ten years' existence of the Institute; but one to one hundred and thirty-five thousand of our population! If these were all at work would the field be covered?

Were each county of the States east of the Mississippi supplied with a phrenologist, over thirteen hundred would be required. We know of some phrenologists who have remained for months in a single country town, and then have left with the impression that they had not half canvassed it. The calls which are coming in from day to day indicate that the time is not far distant when phrenologists will be expected to settle in a neighborhood, like the physician. Then how many will be required to cover the field, friend correspondent? The resources of one Institute will be totally inadequate to supply a competent number. Nay, each of the older States will need an Institute to keep the ranks full.

PRISON REFORM IN NEW YORK.—An association with this object has been formed recently in this city by several citizens of prominence—ladies and gentlemen. The moving spirit of the enterprise is Miss Linda Gilbert, whose efforts in behalf of those under sentence of the law have served to ameliorate the rigors of confinement for many. A nucleus has been established for the supply of healthful reading for prisoners at No. 29 East Thirty-second Street. Contributions of books and periodicals may be sent there by all who are disposed to assist in the excellent work of helping the criminal in the matter of personal reform and education.

THE SUMMER CLASS.—In the Supplement issued with this number, all the particulars in regard to both the Summer and Autumn Sessions of the Institute may be found. As the summer course begins on the sixth of July, with the view to accommodate persons who have a vacation only in the summer, we refer all who are interested in acquiring a knowledge of Phrenology to that department of the JOURNAL.

PUBLISHED CHARACTER.—A correspondent writes:

"I have sometimes thought when reading your descriptions in the JOURNAL, that you only touched lightly on their faults, for fear of offending, etc."

In respect to this, we would say that it is not so much from fear of giving offense as from indisposition to do an act of injustice that our published analyses are not often minute in specifying faults and defects of character. Besides, nearly all of our subjects are engraved from photographs, and our phrenological comments are predicated of the head and face as shown in a photograph, and the reader certainly knows how imperfect such likenesses often are in representing expression and contour. To recite the bad in a man at any time is a dan-

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gerous affair, viewed from a legal or moral point of view; and we are not anxious to render ourselves liable to prosecution for a libel, or to misinterpretation. The proper place for the disclosure of one's character in all its phases is the examining-room, and there it is that the best features of the phrenological system—its moral teachings—are exhibited, but in entire confidence between subject and examiner.

Our Mentorial Bureau.

[In this Department will be noticed such matters as are of interest to correspondents and to the general reader. Contributions for "What They Say" should be brief, pointed, and creamy, to secure publication.]

To Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY *will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.*

IF AN INQUIRY FAIL TO RECEIVE ATTENTION *within two months, the correspondent should repeat it; if not then published, the inquirer may conclude that an answer is withheld, for good reasons, by the editor.*

WE CANNOT UNDERTAKE TO RETURN UNAVAILABLE *contributions unless the necessary postage is provided by the writers. In all cases, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage—stamps being preferred. Anonymous letters will not be considered.*

SIZE AND SHAPE OF THE HEAD.—*Question:* If a head measure twenty-three inches in circumference, how much should it measure from the ear, in different directions, to be a well-balanced head?

Answer: A head to be well-balanced should be, horizontally considered, of a fine oval form, without any angles, square corners, or flat places, but neatly and harmoniously rounded, so that in every part and in every direction a line three inches in length shall show a graceful curve. Do you ask what a good oval is? Eggs are of different shapes, but select one in fifty which in your judgment is of the best shape, and a line around it lengthwise will represent the proper oval shape of the head measured as the hat incloses it. (Fig. 1 approaches this shape.) Ladies may learn by looking into the hats of gentlemen whether the head is too broad, making them severe, secretive, and avaricious (Fig. 2); or too thin and flat on the sides, indicating a lack of energy, economy, and prudence. Look also to see if the head is high enough for its width and length, and learn to do this just as you learn whether a person is too thin or too stout for his height. It is not necessary for a person to be told that a man who stands five feet eight inches should measure 35 inches under the arms and 31 inches around the waist to be well proportioned. We do not need to lay down a rule in feet and inches to instruct people that a man six feet high should measure more than 30 inches around the chest and more than 24 inches around the waist. So formed, he would look thin and slim like a beanpole. Neither would an observer of heads need to be informed that a head which measures 23 inches in circumference, should

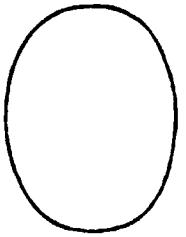


FIG. 1.

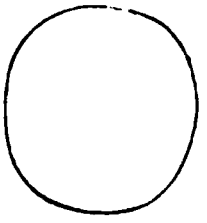


FIG. 2.

measure 14¼ inches from ear to ear over the top of the head, and 14¼ inches from the root of the nose to that sharp, bony point in the back-head just above the nape of the neck, called *occipital spine*.

It is useless and unnecessary to lay down rules in inches for the measurement of the head in every direction from the opening of the ear; as it would be to lay down a rule of measurement for an egg in order to know if it be in shape a harmonious and handsome oval. We see instantly if an egg be too long or too short for its size around, and whether a man be too thin or too stout for his height. A person who will observe, can learn to see if a head be of handsome and proper shape, as he can learn so as to know readily if a face be handsome and harmonious, or ill-shaped and inharmonious, and therefore unhandsome.

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SHAVING THE BEARD.—Early shaving tends to render the beard stiff and harsh. The beard usually grows more freely and thickly on one side of the face than on the other. The only reasonable course in the matter is to produce as close an equality as may be possible by trimming. We can not advise any washes or mixtures as likely to promote a healthful growth on the thin side.

HOME STUDY SOCIETY.—A note addressed to the librarian of the Boston Public Library will probably secure for you the information you desire with regard to the organization of the Boston Home Study Society. We are unacquainted with its officers.

TRICHINA SPIRALIS.—G. H. R.—General inflammatory symptoms accompany the presence of trichina in the system, with nervous excitement, debility, restlessness, loss of flesh, weakness, etc.

FRIENDSHIP — COMBATIVENESS.—It is true that excitement in one organ, when it is great, will produce some agitation in adjacent organs; but the influence on the neighboring organs depends upon the character of the employment of the person at the time of the excitement. It is possible that Combativeness may act individually, but we can not suppose a case. Every action in the ordinary life of man involves several faculties. Mere fighting is an abnormal expression of the organs of Combativeness and Destructiveness. The resolution, persistence, antagonism, which Combativeness may incite, must be dependent upon their provoking cause or causes. Friendship can not be grouped with Combativeness, you know, as it belongs to the social order. Yet Combativeness makes its strongest attack when influenced by social motives. Mere malice, or the influence of low and vicious impulses, produces spasmodic and abnormal expressions of the function. Some men are so constituted, having a moderate degree of Destructiveness, Secretiveness, and Acquisitiveness, but a good degree of Friendship, Inhabitiveness, etc., that they will contend earnestly only when some social principle or some friend's interests are at stake; while from merely personal motives they will show but little spirit or courage in controversy. We shall be glad to see Mr. Collins at the opening of the autumn session of the Institute.

WORSHIP—ORGANIZATION.—The higher the development the purer the tone of the devotional sentiment. Among the races of men that are organized upon a low plane of development, the worship is commensurately low. Fetichism, or the worship of material objects and animals, is found among those peoples whose moral sentiments are scarcely beyond the germinal condition. Spirituality, Veneration, and Hope influence the intellect and propensities, but unless those faculties be developed and strengthened, religious manifestations do not rise much above the physical impressions which the world around makes upon the mind. We have yet to find the man who does not adore some object or principle, be it the creation of his intellect or his imagination.

AIR AND WATER.—F. J. B.—Air absorbs water in a regular proportion in accordance with its temperature. Of course, more moisture can be taken up by the atmosphere than is normal, but this can only be brought about through force. Many people who have furnaces for heating their houses in winter, have water-pots set in the furnaces, and the water put into them being close to the flaming coal is thrown into a rapid ebullition, and, consequently, a great deal more moisture is forced into the ascending current of heated air than is normal or suitable for healthful breathing. On this account people who spend most of their time in their houses, warmed by furnaces, are rendered very sensitive to changes of temperature. On going out into the cold, crisp air of the street, they become chilled and liable to contract diseases of the throat and lungs. The better way, we think, for giving moisture to the atmosphere of houses during winter, is to have a wide, shallow dish, or pan, set in some part of the living-room, and kept filled with water. The warm air will take up from the pan its normal quantum. We have been in some houses where the heat was not only excessive, but the air was so thoroughly saturated from the steaming furnace-pot that perspiration was readily induced.

ORGANIZATION OF BRAIN.—Yes; the brain is duplex; the organs are double, one being on each side. Sometimes there are small nodules, or lumps of bone, upon the surface of the skull. Their character is easily discerned by a skillful phrenologist. Some observers have divided the organ of Alimentiveness—assigning to the forward part the name Bibativeness, or fondness for drink.

CISTERN.—A cistern well constructed of hard wood, the interior coated with the best paint, and permitted to dry thoroughly before water is let in, would serve your purpose as well as anything with which we are acquainted in the way of securing a supply of good water. Cement has a hardening effect upon rain water, which effect is heightened by any admixture of lime. A brick cistern, well lined with the best Portland cement, should prove serviceable in the way of keeping water good for the ordinary purposes of the household. For drinking purposes, however, rain water should be filtered.

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BASHFULNESS. —W. J. S.—This embarrassing weakness is due in the first place to a susceptible temperament co-ordinated with large Approbativeness, small Self-esteem, moderate Secretiveness and Combativeness.

FRIGHTENED HORSE. —J. A. — The reason that a horse will not escape from a burning building is because it is panic-stricken; the same reason accounts for the terrible losses of life in Brooklyn and New York when the Brooklyn Theatre was burned, and when the floor settled in St. Francis Xavier's church.

PECULIAR EXCRETION.—E. B. S.— The case you mention is certainly singular. Medical authors relate cases somewhat analogous, but they have been of very rare occurrence. There is a peculiar blood diathesis in this instance which, we think, should be susceptible of analysis. Have you not referred the matter to a good physician and obtained his opinion? We would advise the lady not to use flesh in her diet, but to make rather free use of water and fruits; she should avoid butter and all oily articles, and pastry and cake in which lard or butter and salts are usually baked should not be eaten. We would like to hear again from you in case you adopt these suggestions.

PERFECT BALANCE. — *Question:* In a full-sized, perfectly-balanced, perfect brain, are all the organs fully developed?—J. L. H.

Answer: Yes.

HEAT AND DAMPNESS. — *Question:* Why is heat more oppressive in damp than clear weather?—J. W. G.

Answer: The saturated atmosphere oppresses the lungs and prevents a perfectly free action of the excretory functions. Besides, in damp, hot weather there is but little movement of the atmosphere; consequently, there is an accumulation of gases more or less noxious to life, which are held in suspension and respired by the lungs. These oppress the circulation of the blood, and also the general action of the system. In clear weather there is more or less freedom of atmospheric movement, currents, breezes, etc., which furnish better conditions for life.

CO-EDUCATION. — It has been pretty well concluded by the educators of the time that the association of girls and boys in school is conducive to their general improvement.

VARIABLE EYES. — BROOKLYN.—The phenomena you speak of in reference to your eyesight, is probably due to weaknesses of the optic nerve. We would not advise you to read much at night. Perhaps you are confined in an office or store during the day, where the light is dim. If so, that may have affected your eyes.

SALIVATION OF FOOD.—M. J. R.—All food should be well masticated. We do not advise the wholesale use of soft, moist articles, for the reason that one gets into the habit of swallowing them after very little preliminary chewing. Bread thoroughly baked, crackers and biscuit moderately hard, should alternate with these soft preparations. With hard food, fruits can be used, but they, too, should be chewed. Contact with the mucous lining of the mouth by any article produces a flow of saliva; even liquids excite this flow.

Hominy is prepared chiefly from Southern corn. The white is preferable to the red sort for common use.

A SMALL MICROSCOPE.—The "Excelsior" is the best cheap instrument we know for your purposes. Its power ranges from five to thirty diameters (900 times). This with three lenses costs $2.75. Its arrangement is simple and convenient for out-of-door use.

What They Say.

AN ENGLISHMAN'S VIEW.—A recent letter from a subscriber who resides in Huddersfield, England, contains the following sentiments:

I like the combination of THE PHRENOLOGICAL AND SCIENCE OF HEALTH very much; think it a better arrangement than the former one. I have told you before how much I like it. Sometimes I read the different numbers until I almost know them by heart. I am only sorry that the months seem to come so slowly and seldom. . . . . About two years ago I had a slight attack of pleurisy. I went to a homeopathic doctor, and obtained some medicine, and in time got well. I am now recovering from another attack. This time I have taken no medicine at all, but worn flannel across my chest and keep the body warm, going to town twice every day as usual, besides exercising and taking great care in my diet. I have told no one that anything has been wrong with me, because if I had, I *knew* that I should be forced to take medicine. I was determined that I would not. I am living as nearly in accordance with hygienic rules as possible; and some queer things are said to me on this account. I was told last night that I was troubled with a species of insanity, and this simply because I preferred brown bread and treacle to meat. [We would suggest the use of apple-sauce or other fruit to our English friend as decidedly preferable to molasses and kindred food]. . . . . Your journal has done me a world of good, and I thank

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you and it most sincerely. I have been told that stone fruit is not so good for one as that without stones. [This is dependent upon the sort of fruit one has in mind. We think that good peaches, plums, cherries, grapes, etc., are excellent articles in their season. We know of nothing more refreshing as an accompaniment to more solid diet]. . . . . I am much pleased to see that the Institute is so successful. I wish that I lived in New York; I should most certainly want to attend. [Can not our friend make up a company of young Englishmen similarly inclined, to cross the Atlantic for the purpose of attending a course of lectures under the auspices of the Institute of Phrenology? A company of ten or more would be able to secure low rates of passage. And we would see to their comfortable lodgment at moderate cost while here]. There is a need of phrenological lecturers in this neighborhood. I wish some enterprising American would take it into his head to visit us. It is too far to go to London to obtain the benefit of Professor Fowler's eminent experience. Many thanks for answers to my former questions. M. J. W.

HOW TO IMPROVE IN PHRENOLOGY AND PHYSIOGNOMY.—Enough has been said in the PHRENOLOGICAL, certainly, to convince the masses of the great importance of studying these sciences, and it seems as though people would "brush up" and avail themselves of the golden opportunities afforded them, and thus qualify themselves for higher and nobler lives. We have the greatest reason to believe that the Supreme Being designed man not so much to enrich himself with physical things as to treasure well his mind with learning; as an essential means of happiness here on earth and also as a necessary preparation to real happiness in the future life. Now, coming back to the subject of my article, it seems to me that the proper course after we have thoroughly studied those invaluable works published by the publishers of the JOURNAL, is to gather together in social companies or unions with a fixed determination to secure the greatest mutual advancement in human science. The private study of any branch of science is much less profitable than its study in company with others. We may study anything privately, keep it to ourselves, and unless we have a remarkable memory, we shall forget much; but let us communicate what we have learned to somebody else, and ten chances to one it will become permanently fixed in our minds. The mere telling it to another, strange as it may seem, impresses knowledge upon our memories. Now, there is no good reason why the lovers of phrenology and physiognomy should not form clubs for the advancement of these sciences in every neighborhood. When a club is organized and really in running order, let each member make every effort to further its object. Discuss, criticise, advance new ideas; and, in fact, use every possible means to increase your stock of knowledge.

JOHN W. LOWE.

TRUTH *versus* ILLUSIONS.—We light our incense for the heroes. Our songs ring on the air, carrying their names on the wings of glory to posterity. Their dauntless courage fires our hearts with an enthusiasm similar to the intoxication aroused by beauty. Ah! but this enthusiasm is dangerous, for under its influence we are liable to be lamentably unjust. We may heap our praises on objects more deserving of condemnation and abhorrence than utterances of honor. "Bravery is glorious!" Well! but bravery *alone* does not make a man great. The most degraded criminals have sometimes displayed an unflinching spirit in the jaws of death. And when we meet fellow-beings endowed, it may be, with indomitable courage, but devoid of those beautiful qualities which we call justice, compassion, reverence—do we not make fools of ourselves in showing them honor or by erecting monuments for the immortalization of their names? Yes, verily! every token of respect wasted upon a tyrannical, self-conceited destroyer of the happiness of men is a slap in the face of humanity. Death for tyrants! Down with their monuments, and shame be upon their names, whether they represent exalted barbarians, like Caligula or Charles XII.; exalted fools, like Louis XV., or both, like Pope Alexander VI.!

Such are the outbursts of feeling from the true philanthropist. But will humanity thank him? Will not poor mortals, aroused from their dreams, use their first strength to slay the benefactor to the ground? Ah! the human soul *wants* to adore. It was this mighty impulse which induced the author of "Bird Blue"* to exclaim in imagination and hope: "No matter if you deceive us, since you make us happy!" Well! Bitter is the awakening from the dream in which we roamed on the mountains of imagination, all the time stretching our longing glances to "the distant heights;" bitter when we find that the noble, warming objects we sought can not be reached; more bitter still, when we see that what we supposed to be great and venerable becomes low and horrible. But in this case should a love of truth enable our souls to turn from the deceiving images and wrest their memory from our hearts.

EDWARD AXON.

* P. D. A. Atterbom, a Swedish poet.

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Library.

In this department we give short reviews of such NEW BOOKS *as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor us with their recent publications, especially those related in any way to mental or physiological science.*

HOW TO CAMP OUT. By John M. Gould, author of History of First, Tenth, Twenty-ninth Maine Regiment. 16mo, pp. 134. Cloth. New York: Scribner, Armstrong & Company.

The season for out-of-door pursuits and diversions is at hand, and it appears probable that the summer of 1877 will find more enterprises afoot of the pedestrian, camping-out and boating sort, than have been known hitherto among our townspeople of the East. There are advantages in the semi-wild life of the forest or sea-side camp in which every man, who is pent within the dust and din of a crowded city ten or eleven months of the year, should have a share. To breathe the pure, strong air of the mountain or of the "sounding shore," to feel one's self beyond the grasp of jealous, gossiping convention, and to experience a real exhilaration in being thrown upon one's own resources to provide the day's entertainment and the night's comfort; these are some of the felicities accorded to the camper-out.

Mr. Gould comes to the aid of those who sigh for scenes remote from the busy haunts of commerce and fashion, and who may follow the bent of their longing by telling them how easy it is to enjoy a month or two in sylvan independence. "How to Camp Out" contains thirteen chapters full of practical counsel and incident. What we should wear, and what provisions, tools, utensils, etc., we should carry; how to prepare food and how to cook it; how to raise a tent, or make a shift to provide a covering from materials obtained in the forest; how to travel afoot, on horseback, or by wagon, alone or in company, with estimates of the expense usually attending such an enterprise, are among the topics discussed by the veteran author. The hygienic notes are particularly good, and as well fitted to regular home life as to out-of-door campaigning.

CONTRIBUTIONS TO OPERATIVE SURGERY AND SURGICAL PATHOLOGY. By J. M. Carnochan, M.D. With Illustrations drawn from Nature. Quarto. Pp. 64. Parts I. and II. Price, $1.00. New York: Harper & Brothers.

The name of Dr. Carnochan bears weight enough to stamp this new work with special value to the profession of medicine and surgery. Much care is apparent in the preparation of the matter embraced in these initial numbers and the cases introduced, two of Elephantiasis Arabum, besides observations on the ligation of the common trunk of the femoral cortery in certain relations, are thoroughly discussed from the point of view of the author's own experience in their actual performance and from the opinions of other surgeons of high reputation.

The remaining parts of the series—ten in all—will be issued at 75 cents each. The superb style in which the work is gotten up should add materially to the attractiveness of its matter, and render it readily salable.

PERSONAL IMMORTALITY and other Papers. By Josie Oppenheim. New York: Charles P. Somerby.

This brochure of a hundred pages is occupied mainly with a series of letters in which the subject of human immortality is discussed *pro* and *contra*. "Philosophy," the author claims, "destroys many a long-cherished hope," and "the loss is not so great after all; for, even if the soul were immortal, the present only is ours; more than this the gods themselves can not claim. If we are happy now, our happiness is as great as if we had been happy from all eternity. Death need no longer concern us: 'For where we are, death is not; and where death is, we are not.'"

We doubt whether any reader of Miss Oppenheim's really tender reasonings will be quite satisfied with her conclusions.

DEATH IN THE LIGHT OF THE HARMONIAL PHILOSOPHY. By Mary F. Davis. New York: A. J. Davis & Company.

The author says that the reverent study of nature will introduce us into the "holy of holies." Modern theology receives little respectful attention at her hands, as she claims that it does not show the true way to light on such dark subject as death and immortality. The New Spiritual religion, or Harmonial Philosophy, however, clears away the mists of error and short-sightedness. For ourselves, we must be candid enough to admit that we find that philosophy vague and indefinite, but perhaps we lack the "glorious inner sight."

BROWNE'S PHONOGRAPHIC MONTHLY. Volume I. November, 1875, to October, 1876. D. L. Scott-Browne, Publisher. New York.

This neat and compact volume contains in itself a phonographic manual; the principles of the short-hand art being taught in the first two or three numbers of the series, and many facilities of a simple, progressive nature, adapted to the tyro, being included. Mr. Browne is certainly entitled to commendation for the beautiful precision of the phonographic characters. The reader or student, when scanning the engraved exercises, is not compelled to hesitate about their significance—the distinction between half-

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length and full-length, between fine and shaded strokes, being distinct. The liberality exhibited by the editor in admitting the views of short-hand writers who differ from him on points of theory and practice, also deserves notice. The publication, without savoring of the ambitious in matter and manner, is of much practical value to the student and reporter.

THE POPULAR SCIENCE MONTHLY: conducted by Dr. E. L. Youmans. Published by D. Appleton & Company, New York. $5 per annum; 50 cts. per number.

The late numbers of this useful monthly have been more than usually rich in scientific matter adapted to the general reader, indicating a determination on the part of editor and publishers to render their periodical second to none as an exponent of scientific progress and an instructor of the people. With the May number a new volume begins—a convenient time for subscribing, although subscriptions may commence at any date, and back numbers will be supplied if desired.

WOOD & HOLBROOK have in press—"Fruits and Bread, a Natural and Scientific Diet." By Gustave Schlickeysen. Translated from the German, by M. L. Holbrook, M.D.

A work of interest to all health reformers, and one which should, we think, have a wide sale.

PUBLICATIONS RECEIVED.

CATALOGUE OF THE OFFICERS AND STUDENTS of Newberry College, Walhalla, South Carolina, 1875–76. By which it appears that there are 101 students. The curriculum of study shows a high aim for scholarship at this young Southern institution.

OUTLINES OF A COMMON-SENSE SYSTEM for the Treatment of Invalids, together with a Description of Drs. Walters' New Mountain Home, Pa. If Dr. Walter proposes to carry out the plans broached in this little pamphlet, he will do well for Hygiene and for Invalidism.

JOHN SAUL'S CATALOGUE of New, Rare, and Beautiful Plants, for the Spring of 1877. Nurseries and Greenhouses, Washington, D. C.

ANGELS HOVER O'ER OUR DARLING, a dainty little song, comes from F. W. Helmick, Cincinnatti, O. Price, 40 cents.

COUNTRY HOMES AND FARM ADVERTISER. Carefully prepared descriptions of farms and residences of every variety and price. Boston: Published by Geo. H. Chapin, 24 Tremont Row. A very elaborate register of New England properties for sale. Whoever is desirous of obtaining a farm should consult it or the publisher.

THE VOICE OF MASONRY. Current numbers received. A neat society organ.

OFFICIAL BULLETIN of the International Exhibition (Main Building, Centennial Grounds), Fairmount Park, Philadelphia, 1877. Educational number, with Diagram and Specifications.

NEW YORK MEDICAL JOURNAL for April and May, 1877.

WASTE OF LABOR IN THE WORK OF EDUCATION. An address by President Chadbourne, of Williams College. A brief and clear exposition of an "o'er true" matter. New York: E. Steiger.

THE PEOPLE'S PULPIT. Nos. 115, 116, 117, 118. Dr. Tyng, Jr.'s, Sermons, etc. New York: Murklow & Simon. Price 10 cents each.

SPELLING REFORM ASSOCIATION: its Officers and Plan of Action. Now that several of our best philologists have become interested in this movement, something in the way of result may be expected. Mr. Melvil Dewey, 1 Tremont Place, Boston, is Secretary.

MR. F. W. HELMICK, of Cincinnati, sends us a new piece of music, "He Holds the Fort of Heaven—A Tribute to the Memory of P. P. Bliss." Price 40 cts.

TWELFTH ANNUAL CATALOGUE of the Officers and Students of Vassar College, Poughkeepsie, N. Y., 1876–77.

THE NEW YORK SCHOOL JOURNAL and Educational Directory. A. M. Kellogg, editor, New York. The late numbers of this weekly indicate a decided improvement. Its news items and specialties are presented in a lively, pertinent style, and much useful instruction is afforded to teachers.

UNION LEAFLETS. Package No. 1. Price 10 cents. These little missionary agents, published by the Woman's National Christian Temperance Union, are well fitted for general distribution. They contain a considerable amount of information on temperance subjects and social customs. The package contains fourteen different titles.

THE People *vs.* Daniel Schrumpf—Misdemeanor—Adulteration of Milk. Argument of W. P. Prentice, Counsel to Board of Health.

THE QUARTERLY JOURNAL OF INEBRIETY. Published under the auspices of the American Association for the Cure of Inebriates. T. M. Crowthers, M.D., Secretary. Contains addresses and an essay of an interesting character. The essayist points to the nervous excitability and great mental activity of Americans as a cause of the increased inebriety in our society; but at the same time signalizes a marked physical improvement in the American people at large.

STORRS, HARRISON & CO.'s Catalogue of New and Rare Plants, for 1877. Neatly illustrated. Green-houses at Painesville, O.

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WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

CENSURE is the tax a man pays to the public for being eminent.

IMMODEST words admit of no defense, for want of decency is want of sense.

ONE of the most important rules of the science of manners is an almost absolute silence in regard to yourself.

A POUND of energy with an ounce of talent will achieve greater results than a pound of talent with an ounce of energy.

BENEFIT your friends, that they may love you still more dearly; benefit your enemies, that they may become your friends.

THE BEAUTIFUL AND USEFUL.—The useful encourages itself; for the multitude produce it, and no one can dispense with it; the beautiful must be encouraged; for few can set it forth, and many need it.—GOETHE.

NOT yet, not yet, the light;
Under ground, out of sight,
Like moles, we blindly toil
On—though we know not where;
Some day the upper air,
The sun, and all things fair,
We reach through the dark soil.

IT is a mistake to expect to receive welcome hospitality, words of cheer, and help over rugged and difficult passes in life, in return for bold selfishness, which cares for nothing in the world but self.

ALL things are literally better, lovelier, and more beloved for the imperfections which have been divinely appointed, that the law of human life may be effort, and the law of human judgment mercy.—RUSKIN.

A MOTHER once asked a clergyman when she should begin the education of her child, which she told him was four years old. "Madam," was the reply, "you have lost three years already. From the very first smile that gleams over the infant's cheek, your opportunity begins."

MIRTH.

"A little nonsense now and then,
Is relished by the wisest men."

WHAT is that which by losing an eye has nothing but a nose left? A noise.

"CHANGE cars!" is what a bootblack said to a countryman the other day, when he had finished one of his brogans.

MR. SIMMIS says if it wasn't for the hole in the hoop you couldn't put it on the barrel, and the barrel would burst.

FISH-MONGER: "Well, fish is dear, mum. You see it's a-gettin' werry sca'ce, in consekence o' these 'ere aqueriums."

WHILE a man was singing the other day, "There's a good time coming," another man arose and said, "Would you kindly fix the exact date?"

THE husband who informed his wife six months ago that he would let her put out the washing as soon as times improved, has kept his promise. He lets her put it out—on the line. And still she is not happy.

AN aged colored man made application for food at Washingtom, claiming it as a constitutional privilege. "Why," said he, "I understan' dars provision in de Constitution for de colored folks, and I haven't had one crumb."

"WHY, Sammy," said a father to his little son the other day, "I didn't know that your teacher whipped you last Friday." "I guess," he replied, "if you had been in my trowsers, you'd know'd it."

TALKING about phrenological examinations, a Liberty-street man's wife examined his head with the broken leg of a chair the other day, and pronounced him an old fool. He says that when he reflects on what a mistake he made in picking out a wife, he is convinced that she is more than half right.—*Rome Sentinel.*

"THE way it is," said little Johnny, describing a raffle at a church fair, "you see somethin', and you give a half dollar to win it. Another fellow always gets it, and they never offer your money back."

ONE morning Miss Bridget O'Farrel
Sphlitted up a petroleum barrel;
"Now," said she, "I'll have a foine fire."
And surely she did,
For when they found Bid
She was baked like a brick—
Only dryer. —*Washington Star.*

THE man who don't advertise has his store hung around with shingles and pieces of barrel heads, inscribed with lampblack: "Karosine," "Irish Pertaters," "Korn Meel," "Flower," "All kinds of kontury produse," "Knikx and Kandies for Sail here." He says, "There aren't no sens in noospaper advertising so long as a man is smart enuff to tend to his own business and kin stand at the door and holler the fellers in," says the *Sunshine Courier.*

A WESTERN farmer charged a stick in his woodpile with gunpowder, for the purpose of detecting a thief. The thief didn't get hold of the loaded stick, but the farmer's wife did, and after paying for a new stove, a dozen panes of glass, and a plasterer's bill, he confessed it would have been cheaper to let his neighbor carry off the entire woodpile.

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PHRENOLOGICAL JOURNAL SUPPLEMENT

INSTITUTE EXTRA.

Devoted to the interests of the American Institute of Phrenology.

No. 2.] FEBRUARY. [1877.

The Phrenological Cabinet.

AMONG the many places of interest located on Broadway, there are none of greater importance in many respects than the Cabinet at the AMERICAN INSTITUTE OF PHRENOLOGY.

This is the growth of many years of close application and attention on the part of its founders. A few words in regard to its history may not be without interest at the present time.

The first Phrenological office opened in America was organized in the spring of 1835 by Messrs. O. S. and L. N. Fowler. In 1837 they were joined by their sister, Miss Charlotte Fowler. The year following, the *Phrenological Journal* was established as a small octavo. In 1843 Mr. Samuel R. Wells joined the Fowlers, and married their sister associate in 1844. The publication work was then thoroughly established, Mr. Wells having more especial charge of this, as, also, of the professional department during the absence of the Fowlers on lecturing tours. In 1855 Mr. O. S. Fowler withdrew from the firm, which was, after that, known as Fowler & Wells. In 1860, Messrs. Fowler and Wells went to Europe, and visited many of the leading cities in a professional way. In 1862 Mr. Wells returned and continued the business up to the spring of 1875, when, as the result of overwork, and a severe cold contracted while moving, he died of pneumonia. The business has since then been continued by his widow, Mrs. Charlotte Fowler Wells, under the general name of S. R. Wells & Co.

There is on free exhibition at the office, 737 Broadway, a large and varied collection of Phrenological specimens, consisting of skulls, busts, casts, and portraits of eminent statesmen and scholars, as well as of noted thieves, murderers, idiots, etc., all constituting one of the most interesting collections, æsthetical and scientific, that can anywhere be found. To this Cabinet, visitors to the city and others are cordially invited. An examination of these specimens will prove exceedingly profitable. Here may be seen casts from the head, which are, therefore, accurate, of many men of the past, both foreign and American, including William Cullen Bryant, Charles Dickens, Aaron Burr, Edwin Forrest, Horace Greeley, Horace Mann, Laura Bridgman, Prof. S. F. B. Morse, John Quincy Adams, Henry Clay, Napoleon, Voltaire, Emmet, Chalmers, Franklin, Calhoun, Tom Paine, Dean Swift, Mary Queen of Scots, Clara Fisher, Elihu Burritt, Joseph C. Neal, Combe, Gall, Spurzheim, Caldwell, L. N. Fowler, O. S. Fowler, Samuel R. Wells, Mrs. C. F. Wells, and hundreds of others, including many casts of heads of murderers, pirates, etc. There are, also, portraits of several of the prominent public men of the present day, and additions are constantly being made.

This is also the publication office of the *Phrenological Journal and Science of Health*, the only periodical devoted to the subject of mental science in America, and one of the best magazines published, and of many works on Phrenology and other subjects.

There are, also, rooms, and competent persons in attendance, for the making of private phrenological examinations.

A correct examination will teach us our defects, and how to obviate them; our excellences, and how to make the most of them; our natural talents, and thereby in what spheres and pursuits we can best succeed. It will also show wherein we are liable to errors and excesses; direct us specifically what faculties we require to cultivate and restrain; give all needed advice touching self-improvement, and the preservation and restoration of health; show, throughout, how to develop, perfect, and make the most possible of ourselves; disclose to parents their children's innate capabilities, natural callings, dispositions, defects, means of improvement, the mode of government especially adapted to each, predispositions to disease, together with preventives, etc. It will enable business men to choose reliable partners and customers; merchants, confidential clerks; mechanics, apprentices having natural gifts adapted to particular branches; shipmasters, good crews; the friendly, desirable associates; and guide matrimonial candidates in selecting congenial life-companions, and show the married what in each other to allow for and conciliate; and thus can be made the very best instrumentality for personal development, improvement, and happiness. One is over-cautious, timid, irresolute; another is heedless, careless, reckless; another is a spendthrift; another is miserly. One is sensitive, diffident, bashful; another indifferent, conceited, arrogant, etc., and Phrenology explains exactly where each individual stands.

Those wishing further information may address S. R. WELLS & Co., 737 Broadway, N. Y.

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AMERICAN INSTITUTE OF PHRENOLOGY, CLASS OF 1876.

CLOSING EXERCISES WEDNESDAY EVENING, DEC. 20th.

During the Centennial year, 1876, the Institute held two sessions. The first, commencing on the 6th of July, was an experiment, and held with a view to meet the wants of teachers, students, and others whose opportunity to attend could be found only in their summer vacation. On the 10th of November the thirteenth course of instruction was opened, and, although owing to the stringency of the times, and, perhaps, partly owing to the fact of the summer class, the number attending was not so large as is usual in the autumn, yet the members of this class were distinguished for earnest interest, close attention, and faithful and prompt attendance. Of course, all the facilities for the extended illustration of human and comparative phrenology were brought into requisition; the skulls, casts, and portraits constituting our large cabinet, were laid under contribution freely; the philosopher and the idiot, the moral and the depraved were contrasted, and the crania of animals, from the largest to the least, were made subjects of study; while anatomy and physiology were rendered available by means of skeletons, models, charts, and the human brain itself. We have great hope that the members of this class will be favorably heard from as exponents of human science. The closing exercises were interesting, several members of the faculty of instruction and of the class taking part. The following is a condensed report of the proceedings:

REMARKS BY MR. SIZER.

Thus we meet, friends, for the one hundred and thirteenth time, and we meet now as a class and as tutors for the last time; and though you have been in attendance here for many weeks, and though your attendance has been commendable and your progress has been satisfactory, you will never know how much interest we have felt for you collectively and individually; you will never find out how much hopeful anxiety we shall feel in reference to your future. When you shall feel the need of advice, counsel or assistance; when you shall find yourselves triumphing and rejoicing in success, and we learn of it, you may get inklings of how much interest we have in you, and how much hope and anticipation we entertain in respect to your future and your success in the work you have to do. To-day we open widely to you the door to the broadest and best subject that ever challenged public attention or private study; to-day we welcome you joyously and confidently to that field, which, cultivated properly, will bring to you the largest harvest; will bring to those people for whom you labor, and with whom you labor, the richest reward. When we think what our subject is; when we think seriously of the labor we undertake to do; when we compare our efforts and the material we have to work upon with that which honest, faithful workers in other fields have occasion to work upon, we can not but contrast our material with theirs, our aims with their aims, our results with their results. A man who constructs a good house does a good thing. He helps to shelter some persons from the wintry blast and from the summer's heat; he who constructs a good boot, or fabricates a good coat or a good hat, has done a good thing; he who teaches us how to avoid ill-health, or helps us out of it when unfortunately we find ourselves engulfed in disease, does an excellent thing; he who in the school teaches the young idea how to shoot; he who instructs in arithmetic, in algebra, in the grammar of his language, and in the literature of ideas, does a good thing—a great thing; but when we think what we aim to do, namely, to lift the mind itself up to a higher plane; to open for it the light which comes streaming in from all the works of God, we feel that ours is the highest profession, our labor the highest labor, and our reward, we trust, not the lowest or the least.

A hundred years have not yet passed since it was first promulgated to the world by Dr. Gall, that the human brain is the organic structure through which the mind or the soul finds its way out into life, and through which it works out its great service to the world. Mind had been studied, to be sure, but it had been studied vaguely. No two men had agreed as to how many there were of the human faculties; nobody had found out where the faculties were located, or how mind and matter became co-ordinated, or co-operated and interworked with each other. A new era dawned upon the philosophy of the human mind when that German physician found out that each faculty of the mind had its localization in the brain. When he taught us where to look for memory, judgment, understanding, will, imagination, hope, faith, fear, aspiration, steadfastness, and affection, he did a work for the world which it can not forget if it would, and would not if it could.

Into this great field, then, we welcome you heartily, and when we, passing onward in the scale of being, cease to be workers in it, we charge you all to hold out in the battle of truth, living faithfully according to the instructions which we have aimed to give you, living for mankind, teaching them culture, and serving the world sincerely in this noble vocation, and your reward shall be immortal.

The diploma which we have to give to each of you, will be, we trust, a pleasant memento of our companionship during this course of instruction, reminding you always that we are brethren, bound up in one common bond of sympathy, in one common bond of hope.

MRS. WELLS.

Time, in its flight, has brought us to the close of this session. In it you have been taught many things which may serve you as powder and ball in your active warfare upon error.

Mr. Wells' father used to tell a story to illustrate his ideas occasionally. One of them was: "That during the last British war Stonington, Conn., was bombarded by the English. They threw a great many cannon-balls into the place, and when they suspended the siege they sent a flag of truce to the town, and said to the people, 'If you will gather up those balls and send them back by the boat we will pay well for them.' Brother Jonathan replied, 'If you will send us some powder we will throw them back very quickly.'"

I think that the spirit within you may be termed the powder, and the knowledge you have obtained the balls, and in the science you have adopted you may do good execution by fearlessly telling the truth.

There was a Dr. Sim, who was an excellent phrenologist, years ago, about the year 1835. He was invited to visit the jail in Buffalo; some of the managers were present, and to test Sim's power as a phrenologist, invited him to examine the heads of the prisoners, and indicate the crimes they were sent there for. In the course of his examination he came to one man who, he said, would not do a mean or little thing: that if he were a culprit it would be for some great crime, as for forgery, or something of that kind. That man was Rathbun, then regarded as a public benefactor in Buffalo, and who was afterward convicted and sent to State's prison for forgery on a grand scale. It turned out, how-

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ever, that Rathbun had taken his place among the prisoners as a joke or test of Mr. Sim's skill.

Dr. Sim fearlessly told the truth as science pointed it out. Do that always and you will do well. Use the powder and ball. Investigate. Look for something new. Go forth with a child-like spirit, always willing to learn. What would children know if they did not believe what was told them? You will learn more in this way than you will if you say I won't believe only so far as I can prove. Let your motto be, "I will believe everything, or not deny anything, until I see that it is false. People are sometimes humbugged very much from the fear that they will make a mistake. What is it that makes a person disbelieve but fear?—fear of believing what is not true? They thus fail to investigate and so to learn much that is true. Don't let fear ever cheat you. If you are going to be humbugged let it be in believing too much. Believe and then verify, or learn that you have been mistaken. If a person does not believe you when you make a statement, remember that sometimes you are not willing to believe what is told you. If they require evidence it is the same feeling of doubt in them that is within yourself. And when you make a statement as a fact, something you know, do it graciously and it will be much more likely to be accepted than if you do it in a manner which implies, "If you don't believe, I will make you."

There are many things true which our eyes can not see. What would we be, supposing that we had all the organs of the body we have, if there was not a spirit that we can not see dwelling within us? The body would be but a mass of clay. So there are many things you can not see that are true, and which you could never verify in a lifetime.

A tree sprang up by a stone and that stone was finally broken in two by a root which, at first, could not be seen; the stone finally had to give way for the root to ascend. The strangest and the most refined forces of nature are those that are unseen. The wind is very powerful, but we can not see it. The gas, when you touch a light to it, burns, but you can not see it. So there are a great many things we can not see, but we know they exist. We can not see the grass and the leaves grow; we do not know the force of nature that makes them grow. So we must accept as truth that there is a power we can not see.

As Mr. Sizer said, so I will say, we will help you all we can. You must help make converts for the cause, and help us raise the funds to procure that desired fire-proof edifice. It is too large a task for one pair of hands to achieve, and that only a woman's hands. Go abroad everywhere as the missionaries of phrenology. The Mormons send missionaries to Europe, and in every direction, to make converts. So make yourselves missionaries wherever you go, with the zeal that the Mormons exhibit, and meet with equal success. Write us often; tell us of your trials, your hopes. Do not go before your audiences with a long face, and especially do not let them go away with long faces. Long, sober faces repel us. Go cheerfully, with elastic steps and a pleasant countenance, and meet everybody smilingly, and you w ll draw them to you. We have desired that those who come after us shall be benefited by our efforts, and we have planted that you and others may reap. Now you must plant also.

We do not claim phrenology as our own. It does not belong to any one except those who make good use of it, and it is welcome to all. Do not think that phrenology belongs to us. It belongs to you just as much I wish you every success, and hope you will always feel that this is your phrenological home.

REMARKS OF MR. DRAYTON.

TO THE LADIES AND GENTLEMEN OF THE CLASS:—In the course of the few interviews which I have had with you, it has been my endeavor to present such an outline of the opinions entertained by ancient thinkers as would impress you that there were not wanting some glimmerings of phrenological truth in the philosophy of the ages past. It would be natural enough to expect that he whose mental genius was sufficient to dip far beneath the merely superficial, in the relations of mind to the physical world, would here and there gather some grains of instruction bearing closely upon the subject which we are in the habit of calling ours. The operations of the mind have been the same substantially since the dawn of the historic period. Pythagoras, Democritus, Epicurus, Socrates, Thales, Plato, Aristotle, reasoned upon given topics very much as modern sages do; the nature of their reasoning, of course, varying in accordance with the line of their thought, or investigations, and the liberality of their culture. The deep thought of to-day, that which treats of the higher elements of the humane, points back to those old heads, and quotes their dicta as authority. What we have been able to glean from the philosophy of the past, I take, and you take, as a goodly heritage for our profit. Its bearing upon the subject of phrenology serves to deepen our convictions of the truth. To be sure, we can not say that Dr. Gall is not entitled to high credit and honor for discoveries of grand importance in the field of mental constitution and brain structure. We know that he gathered up, as it were, the threads of knowledge and conjecture, which mediæval philosophy had transmitted, upon the subject of mind and its physical relations, and with them and the results of his own wonderful investigations was able to forge a system of great consistency, vigor, and beauty. As an exponent of the system which he thus evolved, he was able, in the course of a single lecture, to instruct the learned of his day; to teach them in one hour to use the words of the great anatomist Reil, "more than it seemed possible for one man to discover in a lifetime." It would be unfair and unwise, also, to withhold credit and honor from those who occupy high places in history as the disciples and exponents of the Gallian system. No; we are too much indebted to Dr. Spurzheim, Hunter, Vimont, Broussais, George and Andrew Combe, and to those eminent Americans who have contributed so much toward giving phrenology expansion and vital utility in the domain of every-day life.

The aim of your instructors has been to present phrenology in its completeness as known to-day, and it is for you to try and prove the validity of their instruction in the fields which you have chosen to pursue. The fact that you have attended this session of the Institute in itself implies your appreciation and value of the practical scope of phrenological science. Now, at its close, you are doubtless better able than before to estimate the degree of that value. The field of its application is extensive; as diversified, we think, as the operations of the human mind are diversified. No profession, no trade, no calling, engages the thought of man which does not find some use for phrenology. There are some departments in which it appears to have a special use or application; these have been very fully indicated in this course of lectures. Unquestionably the department which brings it into its fullest exercise is that of the phrenological lecturer and examiner. Most of you contemplate entering that, and in its prosecution you will find the vista of your usefulness to lengthen and widen, so that you may at times be almost startled by the grand outreach. If at any time you feel a sense of unworthiness, or incompetency for coping with a subject of so great magnitude, be assured that the experience of such an impression is favorable rather than unfavorable to your continuance in the work. Knowledge induces modesty of assertion; the ostentatious and blatant, whatever may be their sphere, usually lack a solid understanding of their mission and duties. You, as practical phrenologists, venture to instruct your fellows with reference to the laws of their being; you aim to show how men and women may improve themselves in mind and body, and become self-controlling. Therefore, your mission is to enlarge the domain of virtue, and to reduce that of vice. The consciousness of so exalted a mission should impart strength to your hands and enthusiasm to your mental determination to act that noble part which is becoming to men and women who are on the truth's side and doing God's work.

REMARKS BY N. B. SIZER, M.D.

I have to regret that the time has been so short, and that I have been so busily employed in other ways as to prevent a more thorough study of my special department, for the field is boundless and life is short, and your time has necessarily been occupied very much on other subjects; but before parting, I wish to impress upon you the fact that no man or woman can thoroughly teach phrenology without understanding anatomy and physiology, and I hope you will make it a special duty to pursue the study of this subject. For on entering the field to promulgate any doctrine, the person ought to be able to answer such objections as he will be likely to meet; and in this department of science you will find persons who fancy they know much, that will ask a great many technical questions in reference to anatomy and physiology; not only of the brain, but other parts of the body also, and if you are not able to make reply, but betray ignorance, it will place you in a very bad position. You should teach the people how to pre-

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serve their health, and train up their children, and you should be well informed on these subjects, because you will find many erroneous notions among the people which you will be under the necessity of removing. I have seen persons lecturing on phrenology put to disgrace before large audiences by betraying ignorance on the subject of anatomy and physiology.

We are sorry to separate from you, but glad that you have been so faithful; glad that we have been able to tell you so many things that will be of interest to you, but there are many things yet for you to learn. Now as you go forth you have our best wishes and hopes for your success. Remember that you have only just commenced your work; we have merely given you a start; the rest you must do yourselves.

REMARKS BY MR. AUSTIN.

In the few remarks that I shall make it will hardly be expected that I can add a new thought or suggestion on the subject so ably and thoroughly covered in your course of instructions by our worthy teachers; but I would have you ask yourselves, now that you stand, as it were, at the portals of a new career, if your plans and purposes for the future are fully matured and crystalized into definite aims and duties; or, whether, like so many thousands of your fellow-men, you wait for the flood-tide to carry you to prosperity? If you have studied yourselves sufficiently to judge whether you are actuated by merely an aspiration for fame and pecuniary success, or whether you are impelled by that higher sentiment of inspiration for those important truths and ennobling principles which our science teaches? You have come here to prepare yourselves for tutorship in the dissemination of laws the most important of all branches of education and improvement. To be effective and successful as such, requires not only capability and close study, but untiring application and activity. It is said that *some* are born great, and that others have greatness *thrust* upon them. While I could not recommend any one to live for that latter most improbable condition, I believe, measured by the powers and possibilities of a normal organization and development, and the results that grow out of the highest and best use of our faculties, that all are born great. It is the lack of will to labor as compared with the power and capacity to achieve; that aspiration for success and fame, while deploring or despising the long and devious road to reach it, that fills life's current with distorted wrecks of bright hopes and promising talents, and strews its shores with remnants of wasted resources; and whichever of you leave here with no higher incentive or ambition, will often be found on the journey of life resting in some shady retreat, figuring over the old vexed problem, "Does all this pay?" and it will not pay, for your labors will lack consecutive purpose and effort, and the results will be a record of little value to yourself, and of doubtful benefit to your fellow-men. But he who is in love with his pursuit, and starts with a tacit understanding with himself that he is one of the busy bees in the great human hive, draws inspiration from everything around him; extracts sweetness alike from the rose and the thistle; he assumes toils and cares cheerfully; carries his burdens lightly; and through life, trials are only a condition to his success, the crucible through which is evolved and refined a higher order of excellence and usefulness; he has no time to stop and count the cost, or arbitrate upon the probable recompense: the world seems one vast necessity for ceaseless, untiring activity, and he works with an earnestness and energy that can not be appalled by magnitude, and does not despair by defeat.

O. S. Fowler when he left his father's home to walk three hundred miles to college, did not think of fame, or work to the end, that one day his name might be known in every quarter of our whole country. It was that will and determination to make the most and best use of those powers with which nature endowed him that inspired and strengthened his efforts against poverty and a delicate constitution to acquire an education, and accomplish those herculean labors, both as an author and in the lecture field, which have made his sphere of usefulness so extended, and his name so justly celebrated. And co-equal with his brother stands L. N. Fowler. Little could he have anticipated when he stepped from the threshold of manhood into the field of science that one day his name would be inscribed high on the scroll among the fathers and champions of our philosophy. Scarcely could Mr. Wells have read his uture as he retired from his day's work in the tannery o study, by the glimmer of the night lamp, his first esson in phrenology; but by ability and energy he rose to the sole proprietorship of the first and only publishing house for phrenology and kindred subjects; and Mr. Sizer, our veteran teacher, in his thirty-five years of active and persistent study and effort in the cause of human improvement, can, no doubt, tell of many a dark day and blighting storm: but as step by step in his purpose and progress, content to do, let glory come or not, he has steadily grown in capability and experience to occupy a position second to none as practical expounder and teacher of phrenological law and science. And Mrs. Wells, standing, as she now does, at the head of this establishment, can look back full forty years to the time she joined hands with her brothers in their earliest efforts; and the period has been one of constant, earnest devotion. By her keen perception and patient perseverance; in her love for the work, and faith in an overruling Providence for good, she has dared many a fierce storm, and piloted through many dangerous reefs. She has seen the little seed she assisted to plant, and did more than all others to nourish into a living issue, develop into a strong tree, bearing rich fruit. From a business that for weeks, months, and I may say years, was confined to a small office-room, and its products carried by her each night to the post in a hand-basket, she has seen spread out, until its mail is delivered by wagon-loads, and is distributed not only all over our vast country, but reaches even distant parts of Europe.

We trust the efforts of this Institute will raise up very many to fill posts of responsibility and become leaders in the battle of life. But whichever of you would gain the front ranks and win distinction, can not hope to indulge in the delights of leisure, must not tire of work, or grow weary in application; you must have the inspiration for *big day's works*, and the aspiration for high achievements.

We hope to hear favorably from all of you in the future; you certainly take with you our best wishes for your greatest success.

REMARKS BY MR. LAWRENCE.

RESPECTED TEACHERS AND FELLOW-STUDENTS:—I do not expect to express to you what I feel, but I am willing to try. I have been interested in the science of phrenology and physiology ever since I can remember. I have read carefully nearly everything I could find upon the subject for years. I have worked hard upon the farm, day after day, and then at night pored over works on phrenology. I have taken the JOURNAL several years and gathered up papers and bits of old journals in different places and carried them home to get something new on the subject. In coming here I have gone counter to the advice of some of my best friends, but I have gratified a hungering that I have felt for years. The lectures which we have heard and enjoyed here have been to me one grand intellectual, social, and moral feast; the best, in many respects, that I have enjoyed in my life; and, although in a pecuniary sense the attendance may embarrass me, yet I have no regrets. I think that the money I have spent here for these privileges is well spent. I do regret that I had not these opportunities years ago. Now I am enjoying what I longed for twenty years ago, and that which, if it had then been enjoyed and made useful, as I trust this will be, might have been a great blessing and a help to me, and a blessing to my scholars and associates. As I have journeyed up and down the world for the last twenty years, in the battle-field and in the West, and many other places, my mother's cuphoard, in the old home, with its convenient little room for rations, has often been through memory brought up with intense interest, and especially during the war when we had to live on hard-tack; and now I feel, that if I am spared to future years, that this lecture-room, that these men, that this lady—Mrs. Wells—that these associates, this place with its surroundings will be an intellectual "cupboard" to which I shall look back as the place where my head and heart, and whole being, have received that which I have all my life needed.

After reading a little upon the subject of phrenology, and, of course, making it a subject of conversation, I found that my friends and acquaintances who came to visit me, wanted to know about the subject, and so made me hungry to know more, and when I had only a smattering in this field of knowledge, they would come to me by the dozen and want me to examine their heads, and hence I have had much practical experience in it. When I examined those heads I longed for the ability to read character correctly. I desired to become a lecturer upon this subject as well as upon several others, but upon this as the leading subject, and my heart said,

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"Oh, for a thorough preparation!" I knew better than to go into the field without preparation.

To Professor Sizer, as the principal teacher that we have listened to, and the rest of the teachers, I offer my sincere thanks; especially to Professor Sizer. The efficiency, and tact, and skill, and ability with which his instructions have been carried on, have drawn gratitude from my heart constantly. If I could be half as well prepared; if I could be one-twentieth part as well prepared as he is to work in this field, I would be ready to go to-morrow. These lectures and illustrations and sermons are among the best I have heard. They have done me good; they have fed my whole being. I have taken about fifty pages of notes, and if I live and have my health they shall have much of my attention and study. They shall be digested and assimilated if this man has the power to assimilate them. These portraits and casts and skulls have preached to me for weeks. Each has said to me, "Look and learn of me." Many of them have said to me, "Avoid my failure;" some have said, "Practice my virtues." I hope I shall be better prepared in the future to accept the great things of life: that I shall honor my parents, my scholars, and my associates, and be a blessing to the world. I desire to assist in sending these great and important truths to those who have them not, and down to those who shall come after me. I have been impressed with the kindness and courtesy with which you all treat each other; and I have been impressed, also, with gratitude for the uniform kindness and courtesy with which I was received at first, and have been treated during my stay with you. For these things I thank you heartily, and would bid you an affectionate good-bye.

REMARKS BY MR. FAIRFIELD.

Respected teachers and fellow-students of the class: There are five questions which have engaged my attention for several years. They are: What was the origin and what is the destiny of man? How can he learn his true character? How can he learn his relations to his fellow-man? And how to fulfill his duty to God? The first two were answered prior to my knowledge of phrenology. I found the answer in the Old and New Testaments. For the answer of the others I turned my attention to the ancient Greek philosophers. Socrates leaves it dark and mystified. I turned to the Roman philosophers, and the questions were still unanswered. About seven years ago I read Combe's Constitution of Man. There I thought I found an answer to the other three questions. There were given the laws for the guidance of man through this life. They were the natural, the organic, the intellectual, and moral laws Then I looked for the answer why man had fallen so far short of his true destiny, and I found that Combe had very well answered the question; it was because of his infringement of these laws. Thus I was led by reading phrenological works, to attend this class, and I am happy to be able to tell my friends, on my return, that I have had the great questions of my mind satisfactorily answered; and expressing my sincere thanks to all the teachers of this class, I hope to return to your next course in July, 1877.

REMARKS BY MR. WILDMAN.

TEACHERS AND FELLOW-STUDENTS:—I have long been interested in the subject of Phrenology. The science of mind in any form is interesting; it is instructive; it is important. In college I studied mind in the abstract. There it was divided into three grand divisions: The Intellect, the Sensibilities, and the Will. I wanted something more practical. My attention was turned to this Institute of mental science. I came here for the purpose of learning something more about man. I studied what I could before I came. I received a phrenological examination, read the chart and studied it well. The result was that I examined the heads of my associates. They wanted me to tell them about their characters, and they were pleased. I remember one student who invited me to go home with him. At his house there was a man who had a very peculiar head. He wished me to tell him something about his character. I gave him to understand that I did not know much about phrenology, but I would do my best. From his phrenological developments, I came to the conclusion he would steal, and I told him so. That, instead of arousing his anger, seemed to flatter him. And then he told me how at one time he succeeded in stealing a horse. Moral philosophy teaches us that the greatest good to the greatest number is not the ground of right; yet, as a rule, I think it is second to none, and that a practical phrenologist can come nearer to living up to that rule than a man in almost any other profession.

Before I came here a certain gentleman with whom I was acquainted, said to me that if I had any doubts in reference to phrenology to go to New York City and call at the office of S. R. Wells & Co., and hear Mr. Sizer read character. He said that he could tell all about a man; describe him and tell him more than he knew in reference to himself; would tell him which parent he looked the most like, and would suggest the disease which had removed his parents from the world.

I extend my sincere, heart-felt thanks to those teachers who have so ably instructed us.

REMARKS BY MRS. WILDMAN.

As a member of this centennial class I wish to express my thanks for the instructions received here. This instruction has been derived from long years of experience, deep study, and hard reasoning, no doubt; and I feel that we have been very fortunate when I consider the short length of time that we have been acquiring this knowledge, and when we think of the time it has cost our instructors to get the information that they have obtained for us. I trust that we shall be able to impart the truths of this great science to those with whom we shall mingle, and thus make the world somewhat better by our having lived in it.

REMARKS BY MISS THOMPSON.

I WISH to express my thanks and gratifications in view of the course of instruction which we have received at the American Institute of Phrenology. I wish also to express my appreciation of the kindness which has been uniformly extended to me not only by the teachers, but by all the members of the class. Wishing you all success in your new field of effort, I bid you an affectionate farewell.

REMARKS BY MISS RIGHTER.

TEACHERS AND FELLOW-STUDENTS OF THE "AMERICAN INSTITUTE OF PHRENOLOGY":—Much as I regret that the hour has come in which we part, yet I rejoice that I can carry forth so much actual knowledge gained under the instructions of the different teachers; and while I here thank personally each of them, allow me to say that I feel doubly grateful to Professor Sizer, not only for the patience and care he has manifested in teaching us the science and principles of phrenology, but also for the moral and religious instructions he has given us. I came here interested in phrenology; I go away loving the science, and with the intention of devoting my life to a dissemination of its principles. I trust that the good seed sown by the different teachers of our class has not fallen upon stony ground. You, my dear teachers and encouragers, I shall ever hold in grateful remembrance, and thank you again for your interest in, and sympathy with, our class.

To my fellow-students I can only say that we can never entirely forget each other, and I know that there are mutual good wishes for each other's welfare. The tear will start at thought of the breaking up of this little band of co-workers, yet let us trust that each goes from here stronger in the knowledge of the grand and beautiful truths taught by phrenology than when he or she came. May we be faithful workers for truth's sake, and if we never meet again here, may we compare notes, without shame "over there."

REMARKS BY MR. SUARES.

WORTHY INSTRUCTORS AND FELLOW-STUDENTS:—You must excuse my language; I labor under a great disadvantage, because my education has been almost entirely in Spanish, and I have not had much cultivation in English, and I should like to express my sentiments in a far better way than that in which I am going to do. I will give you a brief history of my first acquaintance with phrenology. Before I came to this country I had never heard the science mentioned. About two years ago I was visiting a friend and he invited me to look over his library. On examining it I saw a book entitled "New Physiognomy," by Mr. Wells. I obtained

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permission to read some of its pages—for I stopped there a few days—and I became much interested in the book, and I said I must try to buy it, and if my friend would part with it I would purchase it for whatever he might ask for it. He said the work was very valuable to him, and he did not wish to part with it, but I insisted, saying that it was a book in which I was very much interested. Various times he refused, but as I am a little persistent, I persevered and conquered. I was happy; I said I had just what I wished. I would have parted with almost anything rather than not to have procured the book. It shows how we may acquire a knowledge of our faculties; it teaches and explains moral principles, which I had always a desire to understand; and I saw by it that phrenology was the only true system which could explain the science of mind. I made up my mind to come to New York and attend the Phrenological Institute, and I sincerely say that the amount of money which I have paid for this instruction seems very little to me, and I will carry the seeds of knowledge which have been planted within me here to every part of the world. I expect to go among my countrymen and there sow the seeds of this noble science, and I will never forget the moral principles here learned; I will never forget Professor Sizer and his advice. He has not only taken us as students, but it seems to me he has been a father to us, and has shown great care and anxiety that we should do good, and when I leave here and go among my countrymen, I can say as did Cæsar when writing to one of his friends in Rome: "I came, I saw, I conquered!"

I repeat my sincere thanks to Mrs. Wells for her kindness; to Mr. Austin for his patience in his lessons on elocution; to Dr. Sizer for his comprehensive lectures on physiology and anatomy, and to Professor Sizer for his instructions in all that pertains to phrenology; and to all our other instructors. And, my fellow-students, I hope that you all will have success, and that the inhabitants of the world will remember your good works.

REMARKS BY MR. LEVI HUMMEL.

RESPECTED TEACHERS AND FELLOW-STUDENTS:—The first I heard of phrenology was in the year 1868, when a phrenologist called at my brother's house and read the characters of those present in the most accurate manner. On leaving, he left two books, one entitled "Self-Instructor," which I read with much interest, and soon became able to examine heads, although in a very indifferent manner. In 1874 I sent for the "Student's Set," and studied it carefully, and applied for membership in the class of 1875, but circumstances prevented my coming until this session. I worked hard and patiently to get here, and have now gratified a long-felt desire. My friends were opposed to my coming, but I rejoice in the opportunity here afforded for instruction; and, my fellow-students, in promulgating the noblest science ever discovered by human intellect, we need not be afraid of the results. I wish to offer my sincere thanks to all connected with this institution for their kind treatment toward me while with them, and I shall always employ my best efforts in their behalf. The course of instruction far exceeded my expectations.

REMARKS BY MR. HAWLEY.

KIND TEACHERS AND FELLOW-STUDENTS:—I arrived n New York for the purpose of attending the class of 1876, alone and unacquainted; but the ever kind treatment of the firm of S. R. Wells & Co., and the pleasant associations with which I have been surrounded while here, lead me to regret that the time of parting has come. I have for many years been interested in the study and works of phrenology, and long wanted to attend a course of instruction here. It seems to me a science which will precede all others. Although it has had its "vale of tears" as other sciences have, and, perhaps, has not fully passed through it yet, it certainly will have its "better world beyond." It is a science which belongs alike to the great and to the common. No other is so closely allied, or can be so generally applied to every-day life in our intercourse with our fellow-men. While affording ample range for the profound and close-observing, its fundamental principles can be easily understood and applied by the average intelligence of the people. And in no place is it so useful as in the care and instruction of the young. As the future welfare of the nation depends on the education of the children of the present, it is especially necessary that they be given the best possible means and modes of acquiring it. A great reform can be produced in the management of schools, and modes of teaching and classifying pupils. I think this is a field toward which phrenology may be directed with assurance of a result which shall be an everlasting source of benefit to the whole country after it shall have been brought about. Although we shall no doubt meet with a great deal of opposition, yet let us not be discouraged nor overcome, but strive on together, with the feeling that we have the hearty sympathy and co-operation of our present instructors and fellow-students.

RESOLUTIONS OF THE CLASS ATTENDING THE THIRTEENTH COURSE OF INSTRUCTION OF THE PHRENOLOGICAL INSTITUTE.

We, having assembled for the purpose of gaining a knowledge of the theory and practice of the science of phrenology, and being satisfied with the thorough and comprehensive course of instruction just given us, and wishing to indicate our appreciation of the skill and efficiency of our worthy instructors, have

Resolved, That to Professor Nelson Sizer we are indebted for his very able and instructive lectures on the modes of action of the organs of the mind, their analysis, the practical application of the principles of the science of phrenology and physiognomy, and for his exposition of all the facts relating to the great science of man; also for his forbearance and sympathy with us in our efforts to become familiar with this noble science, of which he has shown himself a master.

Resolved, That to Mrs. Charlotte Fowler Wells we owe our sincere thanks for the welcome given us as students at the Institute, and for her interesting remarks on the early struggles of phrenology in America; that we recognize in her noble efforts in behalf of the science one of its most valuable friends.

Resolved, That we appreciate the masterly refutation of all objections to phrenology, and the description of its origin and growth, given in the lectures of H. S. Drayton, A.M.

Resolved, That in Mr. Austin we have found an efficient teacher of elocution, and thank him for his earnest endeavors in our behalf.

Resolved, That N. B. Sizer, M.D., has given us a comprehensive and instructive course of lectures on the anatomy and physiology of the human system.

Resolved, That from Dr. James B. Richards we have had very able lessons on the causes of idiocy, and the training and development of imbeciles, and that we recognize in him an earnest worker in this philanthropic cause.

Resolved, That we will ever remember with gratefulness the well-chosen remarks of Dr. Ordronaux upon the subject of insanity.

Resolved, That we have been very much interested in the lectures of Dr. Fishbough, and esteem him a man well-informed in the realm of magnetism, psychology, and clairvoyance.

Resolved, That we tender our sincere thanks to the firm of S. R. Wells & Co. for their courteous and considerate treatment of us while in the city, and would recommend their integrity and uprightness to all who may have occasion to deal with them.

Resolved, That a copy of these Resolutions be presented to the editors of the PHRENOLOGICAL JOURNAL, soliciting their publication.

EDWIN N. HAWLEY, Ohio.
MISS M. HELEN RICHTER, Illinois.
WELLINGTON E. WILDMAN, Ohio.
MRS. M. E. WILDMAN, Ohio.
LEVI HUMMEL, Pennsylvania.
JOHN C. FAIRFIELD, Penn.
O. B. HARRIMAN, M.D., Iowa.
ALVAH LAWRENCE, Jr., New York.
MISS M. B. THOMPSON, Ohio.
R. C. SHULTZ, Iowa.
ADOLPH B. SUARES, New York.
ARTHUR DUNSCOMBE, Canada.

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THE INSTITUTE.

THE act to incorporate the American Institute of Phrenology passed on the 20th of April, 1866, together with an amendment made in pursuance of an order of the Supreme Court in September, 1875, reads as follows:

"The people of the State of New York, represented in Senate and Assembly, do enact as follows:

"*Section* 1. Amos Dean, Esq., Horace Greeley, Samuel Osgood, D.D., A. Oakey Hall, Esq., Russell T. Trall, M.D., Henry Dexter, Samuel R. Wells, Edward P. Fowler, M.D., Nelson Sizer, Lester A. Roberts, and their associates, are hereby constituted a body corporate by the name of 'The American Institute of Phrenology,' for the purpose of promoting instruction in all departments of learning connected therewith, and for collecting and preserving crania, casts, busts, and other representations of the different races, tribes, and families of men.

"*Section* 2. The said corporation may hold real estate and personal estate to the amount of one hundred thousand dollars, and the funds and properties thereof shall not be used for any other purposes than those declared by the first section of this Act.

"*Section* 3. The said Henry Dexter, Samuel R. Wells, Edward P. Fowler, M.D., Nelson Sizer, and Lester A. Roberts, are hereby appointed Trustees of said incorporation, with power to fill vacancies in the Board. No less than three Trustees shall constitute a quorum for the transaction of business.

"*Section* 4. It shall be lawful for the Board of Trustees to appoint lecturers, and such other instructors as they may deem necessary and advisable, subject to removal when found expedient and necessary, by a vote of two-thirds of the members constituting said Board; but no such appointment shall be made until the applicant shall have passed a satisfactory personal examination before the Board.

"*Section* 5. The Society shall keep, for free public exhibition at all proper times, such collections of skulls, busts, casts, paintings, and other things connected therewith, as they may obtain. They shall give, by a competent person or persons, a course of not less than six free lectures in each and every year, and shall have annually a class for instruction in Practical Phrenology, to which shall be admitted, gratuitously, at least one student from each public school in the City of New York.

"*Section* 6. The Corporation shall possess the powers and be subject to the provisions of Chapter 18 of part 1 of the Revised Statutes, so far as applicable.

"*Section* 7. This Act shall take effect immediately."

May 14th, 1875, Mr. H. S. Drayton was elected a member of the Board of Trustees to fill the vacancy caused by the death of Samuel R. Wells, which occurred April 13th, 1875.

OFFICERS.

EDWARD P. FOWLER, M.D., *President.*
NELSON SIZER, *Vice-President.*
H. S. DRAYTON, A.M., *Secretary.*

By action of the Board of Trustees, "S. R. WELLS & Co." have been appointed Financial and Business Agents. All communications should be addressed to

S. R. WELLS & CO.,
737 BROADWAY, NEW YORK.

OUR GRADUATES.

THE graduates of the American Institute of Phrenology are scattered over all parts of the country, we might say of the world. Many are engaged in the work of disseminating a knowledge of the practical applications of phrenology; others are engaged in the leading professions—the ministry, medicine, law, and teaching; others are merchants, mechanics, etc. So far as we know, each one, man or woman, has been greatly benefited by the instruction received at the Institute. Indeed, how could it be otherwise? This instruction is essential to those who would succeed in the phrenological field; but it is also of great service, whatever may be one's vocation. The teacher must be greatly benefited by it; for to whom is a knowledge of mind and character more essential? How could a teacher be successful without this understanding? So with the other professions, and in every walk of life, what can be more useful than a knowledge of human nature? Nearly every man knows more about the selection of stock than he does of a "partner for life," or for business. This would not be the case if phrenology were well understood by the people generally.

FIELD NOTES.

WE are constantly in receipt of letters from our friends in the Lecture field and elsewhere. We mention below some whom we call to mind at the time of going to press; others are in the field and working successfully, from whom we have not heard recently, and we wish success to all.

Dr. G. E. Chandler has returned to Ohio. One of our exchanges notices his lectures as follows:

"The citizens here have been entertained and instructed for the past three weeks by lectures on Phrenology, by Dr. G. E. Chandler. The great interest felt was manifest in the steadily-increasing audiences. At the last lecture the audience desired to express their pleasure by resolutions; and the following were read by Dr. H. A. Cutting, and unanimously adopted:

"*Resolved*, That we tender our thanks to Dr. G. E. Chandler for his able and interesting lectures.

"*Resolved*, That we cordially recommend his lectures on Phrenology to all desiring a course of lectures on this subject, as pleasing and entertaining in material, clear in annunciation, scientific in the treatment of his subjects, as well as attractive in arrangement and delivery.

"*Resolved*, That we endorse his public examination of heads, and delineation of character, as truthful, thus showing a thorough knowledge of his subject in its application as well as in theory."

L. C. Bateman is in Connecticut, and ordering many charts and doing good work. He is making the New England States his field of effort, and becoming well and very favorably known.

L. Emerick is engaged during the present winter in Illinois in his old profession of teaching; but in addition to making use of his knowledge of human science in the school-room, he organized a Phrenological class, giving a course of instruction covering the ground of Temperaments, Phrenology, Physiognomy, and health topics. We have received an interesting account of his efforts.

Howell B. Parker, of Georgia, is as enthusiastic as ever in his earnest support of the cause. He

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gave a course of lessons after the close of his school, and the following very strong testimonial was presented him, signed by the members of his class:

"Having attended the interesting and profitable school taught by Howell B. Parker, graduate of the American Institute of Phrenology, New York city, we do cheerfully recommend such schools—taught by our teacher, for we can not recommend one we do not know—to all persons who seek truth and wish to live noble and true lives. Therefore be it

"*Resolved*, That we regard Phrenology as a science which teaches man, and *woman, too*, how to live happily; as being a correct guide to parents and all who would intelligently and properly educate the young or manage others; as explaining and enforcing most strongly morality and religion.

"*Resolved*, That we recognize his method of teaching Phrenology as the best way to instruct the people *how to live*, and for showing how to read character on scientific principles; thus doing a lifelong benefit to all who may attend.

"*Resolved*, That we return our most sincere thanks to Mr. Parker for the masterly manner in which he presented the science to us; for his candor in teaching us the *whole truth* plainly and practically; for his advice and encouragement, his warm friendship and kindness, as well as self-sacrificing energy and honesty in unfolding to us such a beautiful, perfect, and profitable, as well as interesting, field of study.

"*Resolved*, That we commend Mr. Parker as a gentleman and philanthropist in every sense of the *words;* who is fully competent to teach this science to all who may attend.

"*Be it also resolved*, That we present Mr. Parker with a copy of these resolutions, and send others to the *Atlanta Times* and the *Sunny South*, requesting them to publish the same."

Miss M. Helen Righter, a member of the class just closed, has already had experience as a phrenological lecturer and examiner. She is now thoroughly prepared for entering this field of usefulness, and we shall expect good reports from her work wherever she may go.

U. J. Hoffman is still in the Normal School at Valparaiso, Ind., where he has a good phrenological class, with still better prospects ahead. He is doing good work for Phrenology by elevating it in the estimation of students.

Duncan McDonald has taken to himself a wife, and proposes spending the winter in the Southern States. We have not heard that he has changed his mind, and we bespeak for him a cordial welcome.

William Horn was at last accounts engaged in teaching and lecturing in Tennessee. The following extract from a local paper commends him highly:

"It may be said almost literally nowadays that everything is being investigated and searched out scientifically; and this is as it should be. Science alone brings out facts and truths in such a way that they must not only interest, but also benefit humanity, and it strikes us that the apparent antagonism between religion and science is due entirely to their professors, and their lack of comprehensive knowledge, for since science is, and must be, fact, how can it clash with other truths and facts of a higher nature? A number of our citizens—we could wish there had been more—have been most agreeably entertained during several evenings at the Village Hall, by Mr. William Horn, a lecturer on Phrenology, and if the AMERICAN INSTITUTE OF PHRENOLOGY sends out more such men, to teach this peculiar science, we wish it perfect success. Mr. Horn seems to have no difficulty in uniting the religion of Christ and science; he evidently feels the former, certainly understands Phrenology. His quaint, original, and vigorous mode of expression, just tinged with a little of the German accent, is highly appreciated by the audience, and some of his sentences tell like shot. His reading of characters at the end of each lecture is simply perfect, and precludes all idea of either guesswork or trickery. A chart from him would be no mean guide for life. We wish the lecturer complete success wherever he holds forth."

Miss M. Ollie Prather, of Kansas, sends for charts, and proposes now to enter the phrenological field. We recommend her to the public, and wish her every success.

Rev. Geo. A. Lee was at last accounts preaching and lecturing in Pennsylvania. Complains somewhat of hard times, but states that he is doing well.

Ira L. Guilford, of Michigan, is engaged in his own State, and doing a good work. Favorable reports come to us from his patrons and in our exchanges. The *Charlotte Republican* says:

"Professor Ira L. Guilford, of Grand Ledge, a graduate of the American Institute of Phrenology, delivered a series of lectures on that subject at this place during the past two weeks. His delineations of character are very accurate."

P. E. Ballou has also been lecturing in Pennsylvania. Mr. Ballou is spoken of by the press as an admirable lecturer and a good examiner.

Miss Edna Swift was our first lady graduate. She married Dr. Chase, of Bricksburg, N. J., and is still as much interested in Phrenology as ever. We wish she might be called out.

C. E. Sargent has been appointed one of the teachers in a Reform School for boys, Deer Island, Boston, Mass. Here he will have an admirable opportunity of applying his phrenological knowledge.

L. C. Snell is working in Pennsylvania and doing well.

David M. King, of Ohio, keeps up his interest in the work, and interests many people in the cause.

Ralph Rogers has returned from Texas, and gone into the practice of Phrenology in Tennessee, his native State. His orders for charts and books indicate a successful work there.

Mrs. E. P. Gause is now lecturing in Tennessee, and meeting with encouraging success. It is believed the South offers a good field for phrenological workers.

Mr. J. H. McKenzie, of Minnesota, is giving satisfaction to the people there, as will be seen by the following, copied from a local paper:

"J. H. McKenzie, of Minnesota, who has been lecturing to the people of Ogle County for the past few months on the science of Phrenology, has just started for his home among the lakes of Minnesota. May success attend him. He was the most accurate reader of character that has ever visited this part of the country; and the many charts that he has given in Ogle County, minutely delineating the character of the individuals described in his descriptive chart, together with his instruction for the cultivation of every organ of the body and mind, are witnesses of his ability and also of the true value of his chart. It is to be hoped that the professor will visit us again at no very distant day."

P. Turner, of Illinois, expected to have entered the field as soon as politics cooled down. We hope he will not wait, but pitch in.

W. P. Patton, of Nebraska, has just entered the phrenological field. He is energetic and will make his mark.

C. H. Bronson, of Iowa, the blind phrenologist, is in the field again, and we have no doubt he will do good work wherever he goes. We hear excellent commendations of him from the press and our subscribers.

Edward J. Morrison writes from Texas, and proposes entering the phrenological field there. Although he has been out of the work for some time, he reports good success.

W. R. Greene is also in Pennsylvania, and has been lecturing in Chester County, and reports an increasing interest in the subject.

Miss Alice Stockton is heard from in Iowa. A correspondent reports her having given a course of lectures there.

Mrs. P. W. Irving has been lecturing in the eastern part of New York State, taking for her subject, "Man and his Best Interests."

A. Wallace Mason has recently organized and taught a class at Toronto, Canada.

Matt. W. Alderson is still engaged in sheep husbandry in Colorado, but has not given up his intentions to take up the phrenological work.

Dr. F. E. Aspinwall is indoctrinating the people in his neighborhood with phrenological ideas, and sending us subscriptions and orders for books.

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Dr. Derby is lecturing in Northern Missouri. He is an old and efficient lecturer, and we believe always gives satisfaction.

J. F. McNiel is still studying and investigating phrenological truth, and writing up Phrenology for the press.

Mrs. Mary A. West is attending medical lectures in New York, and preparing herself for the profession of a physician. Her knowledge of Phrenology she will find a great aid, both in preparation and practice.

Mrs. M. J. Holt is still in Virginia doing something for the cause, anxious to be actively engaged in lecturing.

E. E. Candee's name is mentioned in court reports and law matters in Western New York.

J. H. Bullard has just opened a Hygiene Home and Rest Cure at Schuylerville, N. Y. He is a strong, warm friend of Phrenology and Hygiene.

A. S. Matlack writes from Florida; proposes to send us a box of oranges when his grove comes into bearing, showing what he is doing.

Levi Gaumer has been preparing for the phrenological field, and will do it credit.

Miss May Chapman is still in Boston, and extending a knowledge of Phrenology, and by applying it making it useful to the people.

E. M. Chesley is at Cambridge, Mass., in Harvard College.

C. S. Powers is working for a season in Iowa and adjacent States; he sends subscribers and orders for books.

Dr. U. E. Traer is in his own State, Iowa, and doing a good work.

John A. Patterson is practicing as attorney and counselor-at-law in Missouri.

W. E. Wildman and his wife, members of the last class, write us encouragingly from Crawford County, Pa., where they are lecturing.

Wm. Musgrove is still in England, lecturing and making examinations, and reports encouraging success.

Many others are in the field, but not having heard from them recently, we can not locate them, or give any special report of the work they are doing.

A CLASS FOR COLORED MEN.

For some years past there has been a growing interest on the part of some of the most intelligent and educated of the colored people of the United States in the subject of phrenology as a means toward education and self-improvement. We have had inquiries from several colored men and women about special education in this subject. As we can not but recognize the fact that a prejudice still exists in the minds of many people against the co-education of the two races, and knowing that the colored people themselves have entertained the opinion that this prejudice against them would prevent their receiving a full degree of benefit when attending a course of lectures at the Institute, we have decided to propose the holding of a session specially for colored men and women at an early day. We are led to do this because of the interest taken in the subject by several intelligent colored men, and especially by the Rev. A. C. J. Hamilton, of South Carolina, who is anxious to attend and is now making an effort toward the organization of a class. In fact, we have signified our willingness to teach such a class at any time when a sufficient number to justify a session of the Institute may be ready to attend. It is believed that phrenology opens up a way for education and discipline which can not be accomplished without it. Men and women who are engaged in the profession of teaching will find this knowledge of great benefit as an assistance in their work; and the field for phrenological lecturers and examiners among the colored people in the South is a good one.

LECTURERS WANTED.

We are receiving letters almost every day from different parts of the country asking us to send a phrenological lecturer and examiner, and promising that his services would be appreciated, and he would be well supported. This fact simply shows how much of a demand there is for professional phrenologists. A man fairly adapted to the work and well-prepared for it is almost certain of success. The work is not only profitable, but in the direction of bettering mankind. As Horace Mann well said, "Whoever disseminates true phrenology is a public benefactor."

Prices Reduced.—We have, for many years, manufactured two sizes of the Phrenological busts. The larger size has been sold for $2.00, and the small size for $1.00.

These busts are carefully made of plaster of Paris, and show correctly the proper location of all the faculties or Phrenological organs; and with the aid of one of these busts, any person should be able to properly locate and judge something of the size and strength of every organ. Believing that an increased sale of these busts would tend to produce an increased interest in the subject, we have arranged for better facilities for manufacture, and by making them in large quantities we shall be enabled to reduce the price to one-half the former rates, and the large size will be sent to any address by express for $1.00; the small size by mail, postpaid, for 50 cents. Each bust will be accompanied by a key or outline giving a full definition and description of the organs and a proper aid to the study of the subject; besides, these busts will be found very ornamental.

Your Character from your Likeness.—In reply to those residing at a distance from New York who desire information in regard to examinations, and full written descriptions of character from a likeness or portrait, we send a circular entitled "The Mirror of the Mind," prepared as an answer to questions arising on this subject. In this circular all the necessary instructions are given respecting the kind of likeness best adapted to the purpose, as well as those other facts relating to the persons whose characters are to be delineated which it is desirable for us to know. A young man whom we had described by likenesses sent by mail, writes us in response: "I am very much pleased with your description of my character, and I want to thank you for the good you have done me in regard to my health and morals. You described my case most exactly, and it has given me great encouragement, for I want to build up a good character, not a mere reputation." Send stamp for "The Mirror of the Mind." S. R. Wells & Co., Publishers, 737 Broadway, New York.

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SUMMER AND AUTUMN CLASSES. 1877.

THE

American Institute of Phrenology,

(Incorporated by the Legislature of the State of New York, April 20, 1866),

WILL OPEN ITS FOURTEENTH SESSION

July 6th, 1877.

THE FIFTEENTH SESSION WILL COMMENCE OCT. 6, 1877.

EACH COURSE WILL CONTINUE SIX WEEKS.

Terms for one full Course, including Diploma, One Hundred Dollars; Ladies, Seventy-five Dollars.

It is desirable that all who intend to be students of either course should send in their names at once, and be present at the opening.

The chief object of a summer class is to afford opportunity for clergymen, teachers, and others who have a vacation during the warm season, to attend. Such persons who do not intend to make Phrenology a profession, can use it to eminent advantage in the conduct of their own pursuit. Who, more than a clergyman, lawyer, or teacher needs to understand human nature and how to judge accurately of character? The instruction in the summer class is just as complete as in that of the autumn, and those desiring to enter the field as lecturers attend it with equal profit.

THE publication of the AMERICAN PHRENOLOGICAL JOURNAL since the year 1838, together with the wide sale of a long list of valuable books on the subject, as well as public lectures and private classes, have exerted an extensive influence upon the public mind and awakened a desire on the part of many persons of both sexes to obtain a thorough knowledge of human nature, as taught by Phrenology and its kindred sciences.

Accordingly, in the year 1866, a Charter was obtained for the "American Institute of Phrenology," in order to establish permanently a school, in which the whole subject should be taught and students be qualified for giving public lectures and applying Phrenology professionally to choice of pursuits, domestic and scholastic education, and to all the phases of social and moral life.

Since the opening of the Institute in 1866, there have been annual sessions, and occasionally an extra session, and many earnest men and women have gone out from it. Each pupil thus taught has received a Diploma as an evidence of discipline, drill, and training, the valuable results of which would have cost many years of unaided study and practice to obtain.

In these courses of instruction it is proposed to teach students how to lecture and describe character on scientific principles; how to become practical phrenologists and delineators of character. The science needs more public advocates, and the world will gladly extend its respect and patronage to those who are qualified to deserve them.

Clergymen, physicians, lawyers, teachers, and business men, not expecting to make Phrenology a profession, have been our students, as a means of learning how to read character and how to understand, instruct, and manage those who come within their sphere of activity.

The subjects will be illustrated by our large collection of skulls, busts, casts, Anatomical preparations, skeletons, manikins, and portraits. Among the topics treated in the course of instruction, the following will receive special attention:

Outlines of Anatomy, particularly of the Brain and Nervous System, and also of the Vital Organs; their office in the maintenance of bodily vigor and proper support of the brain.

Physiology; its general laws; reciprocal influences of brain and body; the nervous system; respiration; circulation; digestion and assimilation; growth and decay of the body; air, exercise, sunlight, and sleep.

The Doctrine of Temperaments, as giving tone and peculiarity to mental manifestations, also as affecting the marriage relations, or what constitutes a proper combination of temperaments for parties entering into the marriage state, with reference to their own happiness, and also to the health, character, and longevity of their children. This branch of the subject will require several lectures and will be copiously illustrated.

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Food and Diet.—Nutrition, its laws and abuses: what food is best for persons of different temperaments and of the various pursuits. What to eat and what to reject to become fat or lean, or to feed brain or muscle; influence of bodily condition as affecting mind and character; stimulants, their nature and abuse; alcoholic liquors, tea, coffee, spices, vinegar, tobacco, opium: their effects on the bodily conditions as affecting mind and health; what to avoid, and why.

Comparative Phrenology; the development and peculiarities of the animal kingdom; hints toward their gradation in the scale of being, from the lowest to the highest, including the facial angle, embodying some curious and interesting facts relative to the qualities and habits of animals, all tending to show that disposition is according to organization.

Human Phrenology; mental development explained and compared with that of the lower animals; instinct and reason, the line drawn between them; the phrenology of crime; imbecility and idiocy, causes and management; insanity, its causes, and how to treat it.

Location of the Organs of the Brain; how to find them and estimate their size, absolute and relative, a matter of great importance—indispensable to the practical phrenologist.

The Elements of Mental Force—courage, energy, perseverance, and industry—and how to estimate them in the living person, and train them to become the servants of virtue and of success in life.

The Governing and Aspiring Group of Mental Organs, their influence on character and in society, and the mode of estimating their powers and regulating their action.

Self-Protecting Group of Faculties, their location and how to judge of their size and influence in the economic and decorative phases of life.

Division between the Intellectual, Spiritual, and Animal Regions of the Brain; how to ascertain this in a living head.

Memory, how to Develop and Improve it; its nature, quality, and uses.

The Reasoning Faculties, and the part they play in civilization, and in the great developments and duties of human life. How to judge of the size of these organs, and how to cultivate them.

The Examination of Heads Explained; practical experiments; heads examined by each of the students, who will be thoroughly trained and instructed how to make examinations, privately and publicly. Special training in the examination of skulls.

The Combination of the Organs, and their influence on character. How to ascertain what group or organs most readily combine in an individual, and how to determine his mental tendency or leading traits of character; how he may correct his errors and improve himself.

The Moral Bearings of Phrenology and a correct Physiology; home training of the young, and self-culture; Phrenology applied to education, to matrimony, to legislation, and to the choice of pursuits.

Matrimony; its laws and the proper developments of body and brain, for a true and happy union. How to determine this.

The Natural Language of the Faculties, philosophy and bearing on the reading of character as we meet people casually as strangers.

Physiognomy—Animal and Human; or "Signs of Character," as indicated in the face, form, voice, walk, expression, and so forth.

Ethnology, and how to judge of Nativity and of Race, especially how to detect infallibly the skulls of the several colored races.

Biology, Psychology, Mesmerism, Clairvoyance, etc., explained.

Resemblance to Parents, or how to determine which parent a person resembles, and what features of face, what classes of faculties, and what portions of the general build are inherited from the father, and which from the mother. A most desirable attainment for any person, especially so for the practical phrenologist.

Objections to Phrenology Considered. How the skull enlarges to give room to a growing brain; the frontal sinus; loss or injury of brain; thickness of skull; fatalism, materialism, moral responsibility.

Elocution, how to cultivate the voice. Eloquence, how to attain the art. Instruction in reading and speaking will be given by a competent and experienced teacher in oratory.

A Review of the whole, answering questions on all points relating to the subject which may be proposed by students. Each student will be carefully examined in the branches taught, and will give, in his own words, his knowledge on the subject.

How to teach Phrenology. Instruction as to the best methods of presenting Phrenology and Physiology to the public, by lectures and in classes; not only how to obtain an audience, but how to hold it and instruct it.

Dissection and Demonstration of the Human Brain, in detail, giving the students a clear view of this crowning portion of the human system.

The course will consist of ONE HUNDRED or more lessons, and it is proposed to give at the rate of three or more daily till completed; though the wishes of the class will be consulted. TERMS of the entire course of instruction, with Diploma to graduates, ONE HUNDRED DOLLARS. LADIES SEVENTY-FIVE DOLLARS.

The Works most essential to be mastered are "How to Read Character," $1.25; Phrenological bust, showing the location of all the organs, $1.00

The following are exceedingly useful to the student, and they should be read, viz., Combe's System of Phrenology, $1.50; New Physiognomy, with 1,000 illustrations, $5; Constitution of Man, $1.50; What to Do and Why, and How to Educate Each Man for his Proper Work, $2; Phrenology Proved and Applied, $1.50.

All of the above works may be obtained at the office of the PHRENOLOGICAL JOURNAL. Those who order the entire set, *to be sent at one time by express at their expense*, can have them by sending us $10. Post-office order or draft will be safe.

Apparatus for the use of Lecturers, such as portraits, skulls, and casts of heads, can be furnished to those who desire them.

Application for membership should be made at once, that complete arrangements may be made. Address,

S. R. WELLS & Co., Pub'rs, 737 Broadway, New York.

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SPECIAL DIRECTIONS.

We wish to say a few words to those who propose to become students at the Institute and others who are visiting New York, and who are not familiar with traveling. Purchase your tickets direct to New York. While traveling, and after arriving here, be careful to avoid intimacy of any kind with strangers. Let no one know who you are, where you are from, or what your object is in coming to New York. Those who make their name and destination known, will frequently have volunteered the services of some person to show them our office or to a good hotel, or something else which may be supposed to be of interest to them, and in nearly every case it will be found that a deception is being practiced, and swindling or robbery of some kind is the object in view. Some men make it their business in all large cities to watch for strangers for these purposes. Avoid them by going straight along, and ask no questions except of the policemen dressed in uniform, or of some responsible person in a large store. You will leave your baggage at the depot, unless it is something small that you can carry readily in your hand, and bring your check with you. If you come to New York by the Pennsylvania or by the Erie Railroad, you will cross the ferry from Jersey City to New York. Walk directly from the river to Broadway, then to No. 737, or when you reach Broadway, you can ride in the stage, for ten cents, directly to our office. If you come by the Hudson River, Harlem, or New Haven Railroad, you will be at the Grand Central Depot, at Fourth Avenue and Forty-second Street, and can take the horse-car to Cooper Institute, one block from our office. If you reach New York in the night, you can go to the Stacy House, 760 Broadway, one block from our office, where rooms at a reasonable price can be obtained. In bringing money, it is better to procure a draft on New York, if you can. If not, secrete it about your person in an inside pocket of an undergarment. Come directly to this office, and you will have directions given you in regard to place for boarding, getting your baggage, etc.

Board for Students.—The Institute has no boarding hall connected with it, but furnishes boarding places for students convenient of access to the Institute, at from $4.50 to $6 per week. With economical management $5 per week will pay board and incidental expenses, and the tuition fee covers all other necessary expenses. And something can be saved by students obtaining furnished rooms and boarding themselves. One man is to attend the class and wishes to take rooms and furnish plain Hygienic food for a few students. This will be a good opportunity for those wishing to live in that way.

PHRENOLOGY.

A VISIT TO THE PHRENOLOGICAL JOURNAL OFFICE, NEW YORK.

The following from the Ingham Co. (Mich.) *News* will be interesting to our readers :

"Among the many places of special interest to strangers visiting New York, is the phrenological cabinet of S. R. Wells & Co., 737 Broadway. The attention of the passer-by is attracted by the large show windows containing busts and portraits of celebrities, living and dead, particularly of the last new "lion," foreign or native. Entering the spacious rooms, we find the left wall devoted to books and magazines, chiefly pertaining to health and mental culture, including the works of all the writers on Phrenology, from Gall to Fowler. We turn to the right, and see shelves reaching to the ceiling, filled with plaster casts of noted men and women, pirates, idiots, and mummies. Here Mary Queen of Scots is near neighbor to the Indian chief Black Hawk and Gibbs the pirate. Certainly the queen would not have chosen such company, though history is divided as to her fitness for it.

There could be no greater proof of the truth of the science of Phrenology than the wonderful individuality of each head and face, and to those interested in the study of human nature, an hour could not be more profitably spent.

Passing down the room, one sees seated at a table a genial-faced lady, who has devoted her life to the development of the science of Phrenology, and to aiding humanity. In her time she has seen and conversed with more celebrated people than any other lady in the United States. Quiet and unassuming in her manner, she possesses great energy and earnestness, and has stood for years "the power behind the throne." The success of the establishment, of which she now stands at the head, is mainly due to her untiring perseverance and strong will.

The museum leads to the examining-room, where you will meet with another old pioneer of Phrenology, Mr. Nelson Sizer. While he will tell you your good qualities and strongest traits of character he will not forget to remind you of your many failings. He will do it in such a kindly, earnest manner, that you feel, while he reproves, he sincerely desires to benefit you, and come away resolved to be wiser and better. Have you made mistakes in life? Have you wasted your youth and health? You look into your heart. The phrenologist has almost read your thoughts. Surely you have learned a valuable lesson that must be a benefit to you all your life, and you come out into the busy street and watch, with new interest, the different faces that hurry past. You are reading a new book, a never-ending story of light and shadow."

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Publishers' Department.

The business affairs pertaining to the publication and circulation of this Journal, and other miscellaneous and current matter, with advertisements, in general, are inserted in this department.

OUR NEXT NUMBER.

The July number of THE PHRENOLOGICAL JOURNAL AND SCIENCE OF HEALTH will contain the portraits of Sir Edward Thornton, Minister of Great Britain to the United States; Dr. Schliemann, the Explorer of the Trojan Cities; Spectacles, How to Select and Wear Them, with illustrations; Some of the Curious Fish in an Aquarium, illustrated; Wm. H. Vanderbilt, Pres. New York Central and Hudson River Railway, with Portrait; and many other readable and serviceable topics.

Our Premium List.—On another page will be found our list of premiums offered to agents and those who make up clubs to THE PHRENOLOGICAL JOURNAL AND SCIENCE OF HEALTH. It is believed no publisher has ever made better offers than we make to those who work for us, and this in addition to the satisfaction that comes from the increasing of the circulation of a periodical so useful as the JOURNAL. A new volume—the sixty-fifth—begins with the July number. Besides this, we now offer an extraordinary BOOK PREMIUM to all subscribers, new or old. These premiums to the subscribers in no way affect the premiums given to the agents; so, agent friends, now is the time to work.

How to Teach.—Mr. Sizer's new book is having a wide sale among teachers and parents. The book is practical and useful, and should be in the hands of every one who would not only understand those over whom they may be placed in charge, but also those who would understand themselves. It would also tend to a greatly increased knowledge of the subject of phrenology. Teachers and the press are giving the book warm commendations.

Let it be Done.—One of the replies elicited by the proposition, "Shall we do it?" in our last number, contains a trumpet-call in the following terms:

"I propose to *every* reader of the JOURNAL that we take it into our hands to furnish one new subscriber. Come, friends, can't each and every one of us do that? Here is one! Let's hear these words from north to south, and from east to west. I give my pledge to use my best efforts to this result. Now for a grand try from this time until the beginning of the next volume, to double the list of subscribers for the sixty-sixth volume of the JOURNAL. Friends, one and all, that are now readers of this grand magazine, why think of stopping your subscriptions? Don't do it; just take hold and say, I *will* have it, and I will add one new subscriber. How many of you drink tea or coffee, or both? Now give them both up, and there is your subscription money. How many use tobacco in some form? Just give that up, and you are sure of the money for the JOURNAL one more year. Why, I would rather have one meal less per day and be sure of my JOURNAL each month. Let me show you what I am doing. I arise at five o'clock in the morning and am at work until nine o'clock in the evening, with the exception of an hour and a half at noon, day after day, and drink neither tea nor coffee, nor use any strong drink, or tobacco in any form, yet I live and enjoy life. Now let each person do the same, and he will find the means for the JOURNAL. Come, friends, lop off the luxuries before the necessaries, and the JOURNAL is one of the necessaries in my home. Now for a 'long pull, a strong pull, and a pull all together,' to double the list of subscribers.

"D. R. A., Ono, Pierce Co., Wis."

A spirit like this pervading the ranks of our subscribers would give us that solid encouragement which would enable us to produce a magazine approximating more closely our ideal of what a periodical devoted to the science of human nature should be. Double our subscription list, friend and reader, and we shall exert our powers to give you even better reading in our chosen line than you have now in the PHRENOLOGICAL.

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Premium Books.—Desiring to stimulate those of our subscribers whose time expires with this number to a prompt renewal of their subscriptions, and as a means of increasing our list of NEW SUBSCRIBERS, beginning with the next volume, we have decided to offer a BOOK PREMIUM, as per announcement on another page. It is not that we do not consider the JOURNAL worth fully all that is asked for it, but this is usually a dull season of the year, and people sometimes neglect to make renewals until late in the season; and besides this, we wish to afford our AGENT FRIENDS increased facilities for canvassing during the summer months. The offer is made to extend only until the first of August; and with each subscription sent, we must receive TWENTY-FIVE CENTS extra as postage on the JOURNAL and the BOOK. We can not afford to prepay postage on the JOURNAL and give the BOOK PREMIUM also. The list includes our most recent as well as our standard books. The works of Mr. Combe; Wedlock; How to Teach; How to Read Character; Bell's Anatomy of Expression, Memory, Self-Culture; works on Physiology, Hygiene, etc. Those whose subscriptions have not yet expired may take advantage of the offer by remitting now for 1878, and the book premium will be sent at once. Will not our friends and present readers take advantage of this proposition as a means of extending our list of subscribers?

How to Raise Fruits.—This admirable book is meeting with an extensive sale. The first edition was exhausted before the second could be printed, and the agriculturists and the agricultural press have given it such commendations as tend greatly to increase its sale. It is practical and popular, and not so technical as to prevent its being easily understood by amateurs and those who are desirous of learning how to raise fruits. Let every person who owns a rod of available land buy this book and get from it such suggestions as will secure success.

Hygienic Progress.—The closing exercises of the Hygeio-Therapeutic College for the winter term of 1876-'77 were held at Florence Hights, N. J., on the 14th ult. One of the features of the occasion was a hygienic dinner, provided by Dr. Lovell, proprietor of "Hygeian Home," which, though strictly vegetarian, was a marvel of attraction, both to the eye and to the palate, and was greatly enjoyed by all who partook of it. A series of resolutions adopted by the graduating class were presented after the dinner, in which the heartiest approval of the principles of the system of Hygeio-therapy was indicated; and also a deep indebtedness to Dr. Trall and the other instructors of the institution for their thoroughness in presenting the truths of hygiene and physiology in the lectures of the course. The number of graduates is twenty-four, of whom eleven are ladies, who have resolved to "use their influence not only to cure the sick, but to promulgate the principles of Hygeio-therapy." A copy of the resolutions sent to the PHRENOLOGICAL with a special request for their publication came to hand too ate to secure the requisite space.

Institute Fund.—An addition was recently made to the building fund of the Institute by a friend to the cause, who subscribes himself "Homo Canine." Were there a few hundred like him, the facade of the temple dedicated to the most philanthropic of the sciences would, ere long, show its noble contour to the world. Let phrenology be represented among the institutions of the land in this way, and it will at once assume importance and dignity, which now are not accorded by the world generally.

The Emphatic Diaglott: Containing the Original Greek Text of what is commonly styled the New Testament (according to the Recension of Dr. J. J. Griesbach), with an Interlineary word-for-word English Translation; a New Emphatic Version, based on the Interlineary Translation, on the Renderings of Eminent Critics, and on the Various Readings of the Vatican Manuscript, No. 1,209 in the Vatican Library, together with Illustrative and Explanatory Foot Notes, and a copious selection of References; to the whole of which is added a Valuable Alphabetical Appendix. By Benjamin Wilson. New York: S. R. Wells & Co., Publishers, No. 737 Broadway. Price $4.00.

This is a new translation. The author gives his reasons for thinking such a translation of the New Testament necessary: "obsolete words, uncouth phrases, bad grammar and punctuation, etc.," in our present English version. He claims no superiority for his over any other modern translation of the New Testament, but thinks there are other features which commend it, such as, "An approved Greek text, with the various readings of the Vatican Manuscript, No. 1,209; an interlineary literal word-for-word English translation; a new version with the signs of emphasis; a copious selection of references; many appropriate, illustrative, and exegetical foot-notes," etc. We can not indorse Prof. Wilson's objections, with all the emphasis he gives them. But the "Emphatic Diaglott" has features that do recommend it, and to these we call attention. The word-for word interlineary translation is valuable, especially to young ministers who have but little knowledge of Greek. With this book in his hand, any young man of a fair English education and average ability can learn to read the New Testament in the original in twelve months. Of course he can not in this way acquire a critical knowledge of Greek, but he can become sufficiently familiar with the original to enable him to read readily. "The various readings of the Vatican Manuscript" are also valuable.—*The Nashville Sunday-School Magazine.*

To the Housekeeper.—The new pattern of pans for baking wheat meal or Graham biscuits, recently introduced by Mr. G. K. Richards, of Philadelphia, and styled by him, from their shape, "Acorn Irons," have been thoroughly tested by us with the assistance of our better half, and found to yield the most satisfactory results. The arrangement and shape of the pans are such that they do not require quite the space occupied in an oven by the older patterns, and their general plan conduces to thorough work in baking, with less than the usual liability to scorching and excessive thickness of crust when an over-hot oven is used. We have eaten some "perfect gems" from these pans.

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PRESS CONSIDERATIONS.

"THE PHRENOLOGICAL JOURNAL for April opens with a portrait and biographical sketch of Lucius Robinson, Governor of New York. This is followed by articles of great value to every one desirous of learning. We feel certain that no man or woman who will read this JOURNAL month after month can be ignorant of any of the problems of life that harass the populace, but will have the mind richly stored with the freshest thoughts on all the vital questions of the day."—*Huntingdon* (Pa.) *Journal.*

"We have received the April number of THE PHRENOLOGICAL JOURNAL. It is brimful of interesting and instructive reading. We prize it above all the magazines of the day."—*Bushnell* (Ill.) *Gleaner.*

"THE PHRENOLOGICAL JOURNAL for April has reached our table, and is as excellent and spicy as ever. We esteem it above all our periodicals."—*New Sharon* (La.) *Star.*

"THE PHRENOLOGICAL JOURNAL. The April number of this instructive household monthly furnishes a readable and valuable table of contents. . . . Many articles are diversified in subjects covering many topics of vital interest. This magazine is a valuable family instructor."—*Home* (Boston) *Journal.*

"THE PHRENOLOGICAL JOURNAL is a valuable educational journal. Its articles are on 'Writing as an Element in Education;' 'Aristotle;' 'Force in Matter and Mind;' 'Letters to a Son in College;' 'How to Teach;' and 'Diseases of the Larynx and the L. Mirror;' in April number, and are of practical use to teachers."—*N. E. Journal of Education.*

Earnest.—"Do I love the JOURNAL?" asked the editors of a New York weekly, in which an occasional article of mine appears, if not long since in a criticism of mine upon a silly question pronounced in the "Question and Answer" department. I did not refer them to yours, as furnishing an almost unexceptionable one. Ask the friends, far and near, to whom I carry my copy for perusal, hinting always, of course, that they become subscribers. Imagine you see a little woman this last week, when the late numbers came to hand, and found her so oppressed with cares as to be unable to stop to read, hug them up in her arms as so much real life-giving wheat, stopping just to run them over and exclaim: "Oh, the splendid reading we shall have in these! How I wish I could send them to everybody else too." MRS. S.

To Contributors.—We have several manuscripts on hand, which have been preserved, because the writers so requested. They would have been returned had the requisite postage been sent for that purpose. It is not customary for editors of magazines to save unavailable MSS. under such circumstances, but we have adopted the plan of keeping them for a few weeks, awaiting the call of the owner, although at the cost of no little inconvenience to ourselves. Scarcely a day passes tha. we do not receive a package of manuscript on which the postage has not been fully paid through the mistake of the sender. Will our friends who are given to ink-slinging be attentive to the postage matter when dispatching their "best thoughts" to us?

Agents Wanted.—We are desirous of securing the services of a reliable, wide-awake, energetic person in every neighborhood to act as LOCAL AGENT for our publications. One who can appreciate their merits, and has some acquaintance with the people, would certainly meet with success in taking orders for the JOURNAL and our books. Our terms are as liberal as have ever been given by any publisher; and the present is a favorable time for canvassing, especially for the JOURNAL, as we are now offering BOOK PREMIUMS, which always prove attractive. Send stamp for our Terms to Agents, giving full particulars.

His Eye Opened.—A friend recently showed us a letter he had received from Ohio, in which his correspondent makes some mention of the subject of phrenology and THE PHRENOLOGICAL JOURNAL. We extract, by permission, the following:

"I never had an opportunity of studying phrenology, but a number of the JOURNAL has opened my eyes considerably as to one's fitness for a particular calling. I know now that my forte is the mechanical part of printing, and the dealing with sharp business men should be in the hands of some one adapted by nature to it. It has been a bitter experience with me, and you can not imagine what a longing I have for a life where I could contribute my share of work and have no anxiety as to the future."

The Bathing-Cot.—This new apparatus, or appliance, is rapidly gaining favor. Eminent physicians and those in charge of institutions are introducing it, and as warm weather is coming on, it will be in greater demand in families. Nothing could furnish a cooler or more comfortable bed than will be found in this without the use of a mattress. Agents are wanted for its introduction.

Spring and Summer Suits.—Our readers desiring clothing should not fail to consult the advertisement, on fourth cover page, of Mr. Geo. L. Burr, 140 Fulton Street, New York. He sends clothing to all parts of the country, and by his improved system of self-measure a perfect fit is assured. To every reader of the PHRENOLOGICAL JOURNAL desiring them, who will state where his advertisement was seen, he will send, free, his Fashion Book, together with rules for self-measure and samples of goods. Write for them.

Photographers.—Among the prominent photographers located not far from this office, we would mention Geo. C. Rockwood, Union Square; Abraham Bogardus, 872 Broadway; E. W. Bogardus, 863 Broadway; Fredericks, 770 Broadway; N. Sarony, Union Square; Golder & Robinson, 747 Broadway; W. K. Howell, 867 Broadway; Charles K. Bill, 758 Broadway; G. W. Pach, 858 Broadway; D. B. Paul, 735 Broadway.

Suggestive.—We are not in the habit of wishing evil to our neighbors, but just now, when volume sixty-five is about to be commenced—with the July number—we would have all those whose subscriptions expire with this number experience an urgent attack of the "remitting" fever.

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Personal.

Mrs. Brooks, the sculptor in butter, was in Boston when last heard of. Her medallion still draws.

Gov. Hampton, of South Carolina, has been invited to attend the Centennial celebration of the battle of Bennington, Vt.

Charles Tiernan, a professional gambler, lost his life at the burning of the St. Louis hotel, after having saved the lives of many of the inmates.

Poor Carlotta, wife of the unfortunate Emperor Maximilian, of Mexico, is now hopelessly insane, and is a prey to the wildest madness, in which she breaks everything that comes to hand.

Millais, the London artist who gets $10,000 for painting a distinguished face, began work in the island of Jersey, where he was born, with a painter who gave him only his board and $1.25 a week.

Dr. Dio Lewis and Mrs. Lewis have transferred their residence from Boston to Oakland, California. The work which Dr. Lewis has been doing for the advancement of hygiene will be continued in his new home.

Ross Winans, of Baltimore, died on the 11th inst., aged eighty-four years. He was widely known as an inventor, and as a man of large wealth. He had expended large sums upon his house and grounds in Baltimore.

Colonel S. S. Taylor, of Cairo, Ill., was one of the guests at the Southern hotel, St. Louis, on the night of its destruction by fire. He has been accustomed to carry in his valise when traveling a rope ladder and a thick pair of gloves. At the burning of the hotel, the ladder and gloves saved his life.

Mr. J. R. Dodge, the statistician of the Department of Agriculture, at Washington, is spoken of as one of the candidates for the Commissionship of that department. To Mr. Dodge is due most of the credit for what of utility has been accomplished therein. And as he is thoroughly conversant with its details, he is the proper man for the office.

Ex-Gov. Wm. G. Brownlow (better known as Parson Brownlow) died at his residence in Knoxville, Tenn., on the 29th of April. He was in his seventy-second year. He chose the Methodist ministry for a profession when a young man, but became interested in politics, and, in 1837, editor of the Knoxville *Whig*, earning reputation and official preferment. During the war of the rebellion he adhered firmly to the Union, and at its close in 1865 he was elected Governor of Tennessee. In 1868 he was elected to the U. S. Senate.

Mr. Edward Seymour, of the firm of Scribner, Armstrong & Co., publishers, died at Bloomfield, N. J., on the 28th of April. Mr. Seymour was graduated at Yale College in 1860, and became connected with the editorial staff of the *N. Y. Times*, in which he won distinction as a journalist. In 1870 he became a partner in the publishing house of Scribner, Armstrong & Co., for which he was admirably qualified by his literary taste, education, and acquisitions.

Business.

Notice.—The Phrenological and Publishing Business heretofore conducted by the late S. R. WELLS (formerly Fowler & Wells), will be continued by his widow, Mrs. CHARLOTTE FOWLER WELLS, under the firm name of S. R. WELLS & Co. Correspondents, Agents, and others, when communicating on business matters connected with this office, should address their letters to

S. R. WELLS & Co., 737 Broadway, N. Y.

Hygienists and others visiting New York can obtain excellent board and rooms at Dr. R. T. Trall's Hygienic Institute, at 102 East 22d Street. Electric, Hot-Air and Vapor Baths can also be obtained if desired. This Institute is the only one under Dr. Trall's personal supervision, and he can be here consulted at all times. Send for circulars.

To Our English Readers.—We desire to announce to our readers and friends in the British Provinces, that we will accept as payment for our publications English or other foreign postage stamps, at the rate of 4s. 6d. for a dollar's worth, and send our books by mail, post-paid, at prices given in our announcements and lists. This will, without doubt, be a great accommodation to many, as our books are not always to be found in the local book-stores. If a book advertised at $1.50 is desired, send 6s. in postage stamps, and for other books at proportionate rates, and they will be sent by return mail.

Saratoga Springs. Drs. Strong's Remedial Institute has Turkish, Russian, Sulphur, Hydropathic and Electrical Baths, Vacuum Treatment, Inhalation of Oxygen, Compressed and Rarefied Air Health-lift, etc., for the treatment of Nervous Lung, Female, and other Chronic Diseases.

Business Cards.

Trall's New York Hygienic Institute, 102 East 22d Street. R. T. Trall, M.D., and Rebecca L. Trall, M.D., Physicians.

Dr. Lyon's Hygeian Home at Springfield, Mo.

Dr. Glass's Hygeian Home, Hannibal, Mo.

Mrs. M. E. Stark, M.D. Home for Invalids. Canandaigua, N. Y. Send for Circular.

Hygienic Home, Jacksonville, Florida. Send stamp for circular. Address J. J. COURTNEY, M.D.

The Mountain Home. Send for our Circular. Address A. Smith, M.D., Wernersville, Berks Co., Pa.

Mrs. Helen J. Underwood, M.D., will receive patients and give them her personal attention at her home near Chicago. Blue Island, Ill., Box 94.

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Drs. Walters' Mountain Home, Wernersville, (near Reading), Berks Co., Pa. Send stamp for circular.

Healds' Hygeian Home, Wilmington, Delaware. See advertisement. Send for circular. PUSEY and MARY H. HEALD, Physicians.

The Elmira Water-Cure presents the most approved means for the treatment of chronic invalids. Address Drs. GLEASON & WALES, Elmira, N.Y.

Dryden Springs Place Sanitarium and Summer Resort, Dryden, Tompkins Co., N. Y. Mrs. M. W. Moore, M.D.

N. E. Hygeian Home, West Concord, Vermont. Send for Circular, and address J. A. Tenney, M.D., or Martha Williams, M.D., physicians.

Brighton Water-Cure and Hygeian Home. Drs. MCCALL & BLACK have opened a large Institution at Brighton, Ill., and invite patronage. Send for circular.

Lafayette Hygienic Institute.—For Circular Send three-cent stamp. Address J. J. Peret, M.D. Lafayette, Ind.

Pamphlet Binding. — S. T. MILLS, numbers 14 and 16 Vesey Street, New York, binds this Magazine.

Printer and Stereotyper.—EDWARD O. JENKINS, Steam Book and Job Printer, and Stereotyper, No 20 North William Street, New York.

U. J. Hoffman, Instructor in Phrenology at the Northern-Indiana Normal School and Business Institute, Valparaiso, Ind. Send for Circular.

Bullard's Hygienic Home, Schuylerville, Saratoga Co., New York. Send stamp for circular.

Hygienic Board, twenty-five miles from New York. Mountain air, pure water. Box 91, Madison, N. J.

ADVERTISEMENTS.

RATES FOR ADVERTISING.

One Full Page	$75.00
One Half Page	40.00
Less than Half Page	50 cts. a line, agate measure.
Second or Third Page of Cover, or First and Last Page of Inset	$150.00
Last Inside Page	150.00
Fourth Page of Cover	Special Rates.
Business Cards	75 cts. a line.
Business (Reading Matter)	$1.00 a line.

Advertisements must be sent in by the first of the month, to be in time for the month following. No extra charge for inserting cuts. No objectionable advertisements accepted at any price.

Address all orders to S. R. WELLS & CO., 737 Broadway, New York.

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COARSE AND FINE,

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Address **HENRY BOHM,**
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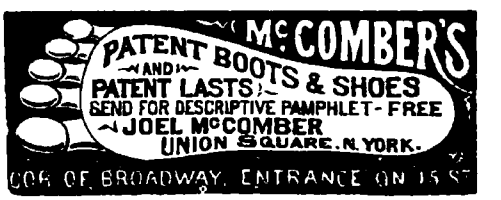
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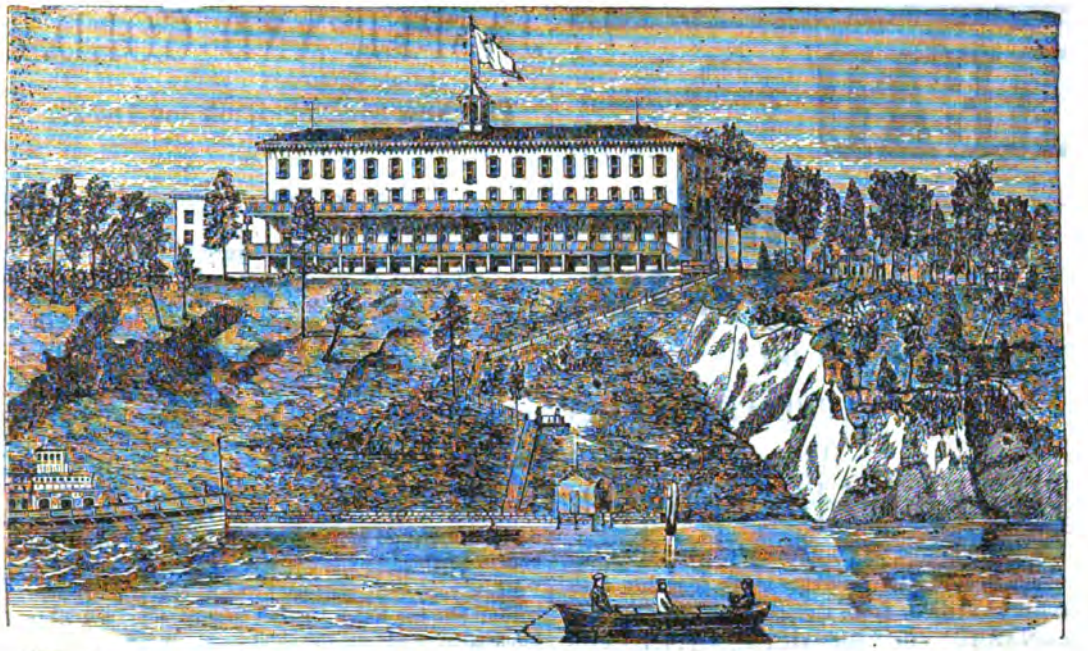
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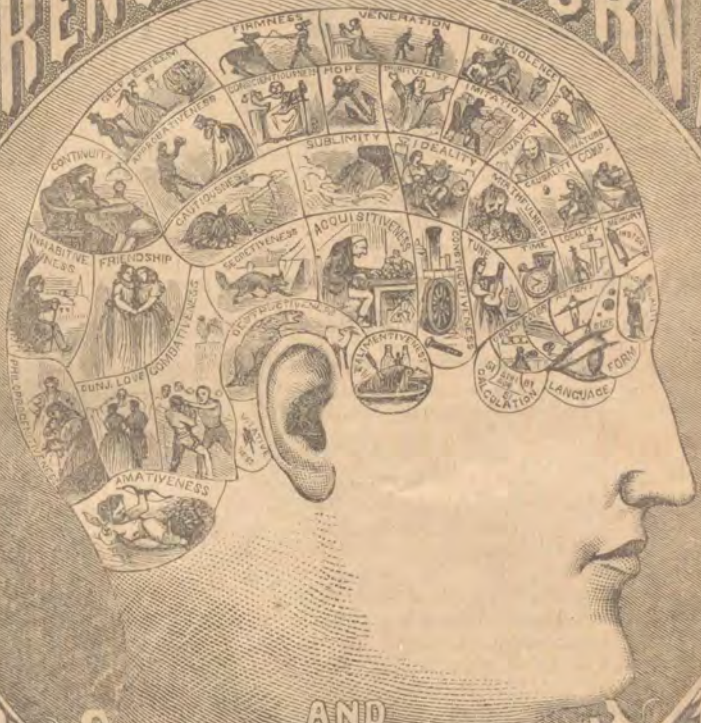
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SIR EDWARD THORNTON,

LATE MINISTER OF GREAT BRITAIN TO THE UNITED STATES.

THIS portrait indicates a most marked temperament — the motive-mental strongly predominating. Wiry toughness and hardihood, positiveness and endurance, combined with uncommon activity, are expressed in every feature of face, head, and

body. He is tall, lithe, and elastic; his motions large and free. In his whole "make-up," nervous energy, or energy combined with nervous excitability, is depicted. Such a temperament, combined with such a form of head, indicates clearness of thought, sharp discrimination, a thorough mastery of facts. In that head we see the elements of scholarship, power of investigation, sharpness of analysis and criticism, and ability to reason comprehensively upon the living facts and topics of the times. He is less inclined to fall back upon the scholastic, to lie in the repose of acquired thought, and to live in the dreamland of the past, than he is to keep pace with current events and stand in the front rank of the living thoughts and ideas of to-day. If a man with such a head and temperament were devoted to business, every market in the world would be visited or carefully canvassed; he would extend his relations to every port which wanted to buy anything or had anything valuable to sell which could be utilized, and he would take an advanced post in his vocation. If he were a manufacturer, the newest patterns, the latest and freshest styles, would be produced by him, and he would manage to take the lead of the market by being prompt and early in meeting the public wants.

In the realm of study he ought to be a scientist. He has the talents which would shine in chemistry, in natural history, in natural philosophy, and in the higher range of mechanics. He has a tendency to be logical, theoretical, comprehensive, but is always sharp, clear, terse, and vigorous. As a lawyer at the bar, he would make court and jury understand distinctly his view of the case. He talks with remarkable accuracy of expression; inclines to use words with specific definiteness, and his rank as a diplomatist depends largely upon that straightforward, unwavering, unvarnished style of statement which begets confidence and carries conviction and influence. There is little of Secretiveness in his composition; he is frank, direct, and straightforward in his thought and treatment of a subject as possible; yet his Cautiousness influences his conduct enough to render him careful in all that he says and does. His Firmness is uncommonly strong, but with such clearness of thought he rarely adopts a course of action which is untenable.

He has strong veneration for greatness and worth, and for religious subjects. He reverences whatever is venerable, and sympathizes quickly with the oppressed. His dignity, determination, and energy of character will enable him to command respect anywhere, and to be a leader among men. We mean that if he were called by another and ordinary name—were to lay aside all title, office, rank, and responsibility, and were to mingle with men of talent, he would be recognized by his tone and assurance, by the spirit and essence of his thoughts and expressions, and would be advanced to a prominent position without inquiry and without hesitation. There are men of title and wealth and culture in every country whose appearance, whose native capacity, and whose power to impress the world are very inferior; but this organization, stripped of title and wealth, and with a borrowed name, would make his mark in any collection of men of thought and culture.

There are in the features of this face those distinctive lines and angles which, while they indicate great sincerity and purity of purpose and motive, indicate also a shade of severity and sternness, as if for half a lifetime he had been in a position of authority and accustomed to the exercise of power; as if his word had been law, and he had commanded and received marked respect.

He has also the signs of strong affection,

and great kindliness of disposition, yet he has that appearance which indicates that his best and most intimate friends would not think of taking great liberties with him. Such an organization is more likely to be addressed by the wife as "Mr." than by his Christian name; and even in boyhood such as he are generally called by their surname, and quite early "Mr." He would bear office and honor with calm, self-poised dignity, but without noisy arrogance, parade, or display. Stars and garters and other insignia of office and rank, to him would seem like trifles, and he would be more likely to dress with extreme plainness, and carry himself among strangers with a modest reticence, than to emblazon his titles, office, or distinction in words or outward demonstrations.

The head is comparatively narrow, high, and long; hence the intellectual and moral powers have a marked predominance in the organization. He is an excellent representative in his own person of the best civilization of the time. He carries the appearance of strict temperance and severe virtue, and we doubt not that he is a worthy example in his personal character and habits for men of rank, wealth, and standing. There is in him no sign of dissipation, but every index of uprightness and high-toned virtue.

This characterization is predicated of a photograph recently received from Washington, and from which our engraving has been prepared.

Sir Edward Thornton is about sixty years of age, was born of an old and honorable English family, carefully educated, and rather early in life entered the public service of his country. In 1842 he was attached to the mission at Turenne; three years later accompanied an embassy to Mexico. In 1851 he was appointed Secretary of Legation to the Republic of Mexico, and then served as Secretary to Sir Charles Hotham's Special Mission to the River Platte, in 1852–53. Next he was appointed Chargé D'Affaires and Consul-General to the Republic of New Granada in 1854, but shortly thereafter was transferred to the Oriental Republic of Uruguay, and proceeded thither instead of going to Bogota. In 1859 he served as Minister Plenipotentiary to the Argentine Confederation; in 1863 was appointed Minister to the Republic of Paraguay. In the performance of South American duty for his Government, his time seems to have been pretty fully occupied; for next he serves on a Special Mission to the Emperor of Brazil, July, 1865; and for the carrying negotiations to a final result was appointed Envoy Extraordinary and Minister Plenipotentiary to Brazil the following month. This duty consummated, he is named Envoy Extraordinary and Minister Plenipotentiary to the King of Portugal in September, 1867, but did not sail, being in the meantime appointed Envoy Extraordinary and Minister Plenipotentiary to the United States of America, December 6th, 1867, since which time he continued in this relation to our Government until his recent recall, performing the functions of his high office with ability and satisfaction to his own and our country. In the High Joint Commission, which sat at Washington, from February 27th to May 6th, 1871, considering several questions of grave international importance, Sir Edward was a member. In August, 1871, he was made a Privy Counsellor.

Thus it will appear that this gentleman's adult life has been filled with official business of the diplomatic sort; and his almost constant absence from the land of his nativity since 1845 has given him the experience, if not the character, of a cosmopolite.

Sir Edward's father had been honored by the title of Count de Cassilhas by King John VI. of Portugal. To this title Sir Edward succeeded, in accordance with the terms of its conferment. How this title is regarded in England is somewhat peculiar, as may be inferred from its consideration by the British Government. By special license.

dated 10th October, 1825, King George IV. permitted Sir Edward Thornton and his successors in the said title of Count de Cassilhas to avail himself and themselves of those marks of favor by accepting the title of Condo de Cassilhas, and by enjoying in Portugal all the rights and privileges to the said title belonging, with this condition: "Provided nevertheless, and we do hereby declare, that this Our Royal concession shall not be deemed or construed to authorize the assumption or use of the said title of Condo de Cassilhas by the said Sir Edward Thornton or his heirs as aforesaid within this Our Realm."

Soon after, the diplomatic relations of England with Turkey had assumed a complex character, and because of the imminence of war between the latter and Russia, it was rumored in high circles that Sir Edward Thornton would be recalled and dispatched as Minister Plenipotentiary to the Ottoman Court. The magnitude of British interests in the East, the great financial stakes which British subjects have in Turkey and Egypt, and the fact that Constantinople is the pivot upon which the Eastern question turns, make the post of Embassador to Turkey one of the highest responsibility. But as it has turned out, Sir Edward has been appointed Minister to Spain, and his return to England is preliminary to assuming that new function.

Always plain, unpresuming and unaustentatious in manner, at home and abroad; always straightforward and diligent in the performance of his duties, Sir Edward has won the esteem of all who have had occasion to come in contact with him in the affairs of State or in the leisure of the social circle. He was knighted a few years after his appointment to the post which he but now occupied near our Government; and in his withdrawal from Washington, for the purpose of serving his Queen elsewhere, he carries the hearty good-will of our Government and the prestige of an able and successful minister.

THE RELATION OF CHARACTER TO LONGEVITY.

THE scientific principles which are the basis of Phrenology are as well established as any in Physiology, yet in their practical application there are few opportunities for accurate measurements or definite calculations. Very much must always depend upon the judgment of the practitioner; and some of the most important conditions, such as the quality and activity of the brain, are among those that can be known only to an approximation even after much study and experience. In view of this important and well-known fact, it becomes necessary to avail ourselves of every collateral branch in the study of the human constitution and character.

The blood, circulating at all times through the capillaries of the brain, stimulates it to action, sustaining thought, emotion, and all voluntary action. The circulation is more rapid during the waking hours than in sleep, and it is more rapid, at times, in one portion of the brain than in others, because of the stimulus given to it by an appeal made to a mental faculty there sustained—according to the observations made in the case of Professor Mapes' daughter, by George Combe, Esq., and others. Other conditions, besides that of circulation, affect the activity of the mind. The quality of the brain, whether in relation to its structure, its amount of watery fluids, or its chemical compounds, are some of the most important of these conditions. Certain portions of the brain never cease to exercise their function day or night during life. They are the ganglia at the base—at the origin of the nerves most immediately concerned in sustaining organic life; and it is doubtful whether perfect inactivity of any portion of the brain is ever produced by sleep. The frequency of dreams, and their varying degree of distinctness, suggests the query, whether dreams may not be constant during sleep, although they may be too faint to be recollected. The ability which many persons have of waking at any hour previously determined upon, and which all persons might acquire, can

not be accounted for except by supposing that some portion of the intellectual brain keeps watch at all times when required.

Voluntary thought appears to be a coördinate action of many organs of the brain, having distinct functions capable of contributing to a common object. This coördination may be so intense as to exclude attention for the time being to whatever is not necessary to the subject under consideration, or it may be more diffuse, leaving the mind at liberty to contemplate its own operations. The concentrated effort of the mind in voluntary thought does not preclude altogether the activity of portions of the brain not thus engaged, although it may reduce it, and it doubtless has a powerfully modifying effect upon what Carpenter calls "unconscious cerebration," which becomes contributary to voluntary thought. Valuable, doubtless indispensable, results are thus produced. An illustration of this is observed in the recalling, it may be, of a forgotten name. Every effort of the will to this end has been futile, no clue to it can be found, neither the initial, the number of the syllables, nor any association that will aid in its recall, yet suddenly the name is presented as positively as though it had been articulated in the ear. The treasures of the memory are opened to those who form regular habits of making urgent demands, particularly in extemporan ous speaking, just at the time when they are required, the channels of communication having been opened in a direction favoring this result.

It appears, then, that there is a constant and a powerful tendency to the activity of the whole brain, but especially so much of it as is available to the object of the will.

There are external influences which stimulate particular mental faculties more than others, thereby demanding the exercise of the allotted portion of brain. Such influences are powerful for good or evil, and may be resorted to for the improvement of defective organizations, but their consideration belongs to the subject of education. At present we will inquire whether there are within the organization itself any forces which may, either occasionally or at all times, have the effect to stimulate one portion of the brain more than another, so that, if their weight be not estimated, the form of the head may not lead to a true and reliable opinion of the talents and disposition. There are, and they are numerous and important, and are of both classes, viz., such as endure for a time only, and those that are as enduring as the constitution—ending only with life. Of the temporary class of forces, we may mention intoxication, which makes the serious man silly; the good-natured, pugnacious; the prudent, lavish, etc. Indigestion depresses the spirits or irritates the mind and provokes ill feelings. There are few persons who are not conscious of alternations of hopes and fears, of cheerfulness and sadness, of irritableness and good-nature, however well the feelings may have been controlled, which can not be accounted for by external circumstances. Even insanity, producing as it does a well-marked aberration of the mind, is usually a general disease of the brain and nervous system, which in post-mortem examinations discovers no local lesions. Influences which were at first of a temporary nature may take a chronic form, or they may become permanent. Temperamental conditions, it will generally be admitted, have an effect to modify the influence of the brain upon the character, while all will acknowledge that a firm, fibrous structure, a good quality of organization, activity of the brain, and the character of the activity, whether violent and occasional, or uniform and industrious, constitutional longevity, etc., are conditions that will influence the direction of the mind, and it is not difficult to trace their connection with the result. A superior quality of the brain adds more power to the moral and intellectual organs than to those of the propensities, by which means the latter are the more perfectly restrained. A dull brain is stimulated to action only by strong emotions, such as usually reach it through the animal nature, and these emotions may exhaust its energies so far as to make moral cultivation almost impossible.

Doubtless every nerve of sensation in the body contributes its iota of influence to stimulate some one portion of the brain, and thereby to modify the character. This

power is probably not confined to the nerves spread out beneath the integument, but is common to those distributed to all the internal organs. The precise functions of all the minute divisions of the nervous system are not understood, and probably never will be, but certain principles are well established, and the functions of considerable masses of nervous matter are known. Every nerve has its own function, which can not be performed by another. The sensitive nerves in the cutis have an acute sense of feeling, which is greater at some parts than at others. Sensitive nerves in the viscera have not the same quality of intelligence, yet when the organs are diseased they may give excruciating pain, a dull sensation of unrest, or a morbid mental depression. In health we are not able to distinguish any particular sensation in any of the internal organs, yet we have the most conclusive evidence that the myriads of sensations are not lost upon the brain, but that they are manifested through that organ in cheerfulness, playfulness, buoyancy of spirits, courage, generosity, admiration, art, and poetry. The esthetic receives its first impulse in the healthful play of the vital functions upon the innumerable nerve fibrillæ spread over and within every organ of the body, and it is molded into form or expressed in language by the appropriately-developed brain; and in animals, whose brain is insufficient, it may be expended, as in the gambols of the lamb or the antics of the colt. Nature has at her command vast sub-capital resources wherewith to produce color and shade to the character, and she is not parsimonious in her works. It would be pleasant, and might be profitable, to dwell upon these characteristics, but our space will permit us merely to glance at one of them—that of the influence of longevity upon character, which we shall find to be very important, notwithstanding every faculty of the mind is sustained by its allotted portion of brain. The effect is as marked as though a stimulus were given to particular portions of the brain by the nervous impressions from the general systemic condition, causing Hope to receive a stronger impulse in health; Cautiousness, in diseases of a debilitating nature; Combativeness, under other irritations, etc.

The evidence of longevity is found, first, in the family history; and second, in the constitution. Family histories will show that in some families nearly all the members live to old age; in others nearly all die young, while in some there is no such uniformity.

The constitutional conditions it is the particular duty of the phrenologist to study; yet if he fail to avail himself of the assistance of hereditary probabilities, he will be without a guide for the formation and correction of his judgment. According to Hufeland,* the following is the portrait of a man destined to long life: "He has a well-proportioned stature, without being too tall. He is of middle size and somewhat thick set. His complexion is not too florid; at any rate, too much ruddiness in youth is not a sign of longevity. His hair approaches the fair rather than the black; his skin is strong, but not rough. His head is not too big; he has large veins at the extremities, and his shoulders are rather round than flat. His neck is not too long; his abdomen does not project, and his hands are large, but not too deeply cleft. His foot is rather thick than long, and his legs are firm and round. He has a broad, arched chest; a strong voice, and the faculty of retaining his breath for a long time without difficulty. In general, there is a complete harmony in all his parts. His senses are good, but not too delicate; his pulse is slow and regular. His stomach is excellent; his appetite is good, and his digestion easy. The joys of the table are to him of importance; they tune his mind to serenity, and his soul partakes in the pleasure which they communicate. He does not eat merely for the sake of eating, but each meal is an hour of festivity—a kind of delight attended with this advantage in regard to others, that it does not make him poorer, but richer. He eats slowly, and has not too much thirst. Too great thirst is always a sign of rapid self-consumption.

"In general, he is serene, loquacious, active, susceptible of joy, love, and hope; but

* Hufeland's Art of Prolonging Life. Chap. VIII.

insensible to the impressions of hatred, anger, and avarice. His passions never become too violent or destructive. If he ever gives way to anger, he experiences rather a useful glow of warmth, an artificial and gentle fervor, without an overflowing of the bile. He is fond, also, of employment, particularly of calm meditations and agreeable speculations; is an optimist, a friend to nature and domestic felicity; has no thirst after honors or riches, and banishes all thoughts of to-morrow."

A few of these indications may be of little value, and some may be in a measure reversed appropriately, yet, as a whole, they stand as the picture of a substantial man, who may take his time to fulfill his life's work.

It interests us to know that the constitutional peculiarities of the man of longevity are not restricted to the digestive apparatus, to the muscular system, to the nerves of vegetative life, nor to all of these together; but that the hemispheres of the brain, which sustain thought and voluntary action, are, in an important degree and manner, partakers of it, so that the disposition and talents are in many respects unlike what would be found to accompany a brain, of similar form and size, that had all its work to accomplish in half the number of years. Were the brain acting as a deliberative body, conscious that there would be time and strength enough to execute all its purposes, it could not adapt itself to the existing condition of things more perfectly than it does.

In the portraiture above given, it would have been more satisfactory had it been said, a head not too small, rather than "not too large." Brain may be a tax upon the system, but it is also a regulator of it, and has regard for its life and health. It is a climatic development which nature usually reserves until she has secured ample constitutional support.

Those persons who, without any disease, are burning out the oil of life to bring it to a close at forty or fifty years, if they possess any considerable energy of character, are more impatient than others, and find greater difficulty in being just and impartial, if they make the effort. These men seem to feel that it is "now or never" with them. They can not bear disappointment, and while they exhibit great zeal and energy in certain directions, they lack the form of enterprise that builds up great works. If they are of a muscular build, they are most likely to be mere laborers, for they have not the patience to learn a trade; if more nervous and excitable, with a head for trade, they may become canvassers, or hucksters in the streets, perhaps driving half-starved ponies at the top of their speed, as though life depended upon getting to a certain corner before a rival, meanwhile shouting their vegetables until they are hoarse. They do not seem to expect to build up a permanent trade, but they make the most they can at every bargain, regardless of the consequences. In literature they may appear to be brilliant, but they dislike work. Wild and extravagant poetry, or tales having little foundation in facts or reason, suit their tastes, while they have no heart for thorough historic works that require patient research.

In friendship a full social development will give fervor and enthusiasm, but they are not the class to endure trials and to be depended upon through vicissitudes and separations. There is too much of passion and impulse for moral perfection. If such men could reform the world in a day, they would gladly do so; and in religion they often exhibit a zeal that is not according to knowledge. They are excellent material for fanatical movements; for it is more congenial to them to blame and stigmatize others than to reform themselves, although this is the class of persons most likely to claim the attainment of perfection.

Many well-formed men, who appear to be healthy, strong, and energetic, will be found, upon a careful examination, to be deficient in some of the most essential conditions of longevity. They may have too great weight and too little real muscular strength; the skin may be too thin and delicate, the color too florid, the eyes too brilliant, the pupils too widely dilated, the teeth of too pearly a white, or perhaps already decaying. The nervous system will be inordinately sensitive, and the mind correspondingly excita-

ble. The movements are sudden and spasmodic. Sometimes there will appear to be an undue confidence in the powers of the constitution, and a corresponding disregard for the laws of life and health. The appetites are strong, perhaps uncontrollable; habits of tobacco-using or of liquor-drinking can not be broken off, but are liable to increase, and dissipation of every form undermines the already feeble constitution. When the character is pure and the habits moral, the tendency to run to extremes in other directions will be indicated. A few years of incessant study or work, hurried eating of the most convenient and palatable dinners, of mince-pie and strong coffee, ruin the digestion and prepare the way for the hereditary form of disease, whether it be consumption, nervous debility, apoplexy, or general decline. Such persons take little care of themselves. They turn night into day; expose themselves, unprotected, to all changes of weather; they are unable to rest, and they derive little advantage from the opportunities to recuperate which a season of release from business may afford, but the clatter of profitless wear and waste goes on until the end is reached.

It has been estimated that on an average forty years are required to enable a person to repay the cost of life. He who falls short of that age fails to pay back to society what he has cost it; while he who lives beyond that age may be of some profit to the world; but at the age of forty the probable duration of life is twenty-six years, which may be occupied in perfecting the work of life for which the mind is now well prepared.

The harmony of man's nature is finely exhibited in the tendency which he who is destined to reach the age of three-score and ten, or four-score years, has toward undertaking works of importance, by which he is saved from frittering away his years in a multiplicity of trifles. The solid characteristics of the mind are usually associated with the conditions of longevity, although in some cases—either from the incompleteness of the development, as may occur when one parent is from a short-lived family, or from exposure, accidents, excessive mental application, or the defect of some one vital organ—the individual may not attain to long life. This may account for the case of Washington, who died at the early age of sixty-eight, cut down by an acute disease, probably badly treated. Webster and Greeley, both solid men, doubtless failed to attain to the age which but for the anxieties and struggles connected with public affairs they would have reached.

The "Father" of our country and its early Presidents afford some fine examples of the association of the solid and comprehensive traits of character with longevity. Observe this list of the first eight Presidents of the United States:

Washington	died at	68	years	of age.
John Adams	"	85	"	"
Jefferson	"	83	"	"
Madison	"	79	"	"
Monroe	"	72	"	"
John Quincy Adams	"	81	"	"
Jackson	"	78	"	"
Martin Van Buren	"	80	"	"

making an average of about seventy-eight years. The remarkable longevity of public men is doubtless due to two causes: first, the character of the men who attain to old age is such as the better to fit them for responsible positions; and in the second place, to the opportunity which length of life affords to reap the harvest of popularity. In science, art, and literature the number of distinguished persons who have greatly passed the average age is worthy of note. We present a few of the more celebrated:

Cuvier	lived to the age of	64	years.	
Milton	"	"	66	"
Gall	"	"	71	"
Linnæus	"	"	71	"
Locke	"	"	73	"
William Penn	"	"	74	"
Handel	"	"	75	"
Galileo	"	"	78	"
Roger Bacon	"	"	80	"
Plato	"	"	81	"
Harvey	"	"	81	"
Buffon	"	"	81	"
Goethe	"	"	82	"
West	"	"	82	"
Franklin	"	"	84	"
Herschell	"	"	84	"
Newton	"	"	85	"
Voltaire	"	"	85	"
Michael Angelo	"	"	96	"

Henry W. Longfellow, born in 1807, and William Cullen Bryant, in 1794, both hard

students and literary workers, as well as poets, are now living and active, the one at the age of seventy, and the other at eighty-three. In studying the lives of these veterans, one can not but be impressed with the amount of patient labor performed, the long study, the faithful preparation, and the persevering effort to bring about a final success. How unlike their course is that of the average man of temporary expedients, who substitutes pretense for merit, theory and speculation for knowledge and experience; who does nothing in reference to its duration, and nothing noble out of love for the work, but all for the gratification of some present desire.

When a physical examination coincides with family history, to make a long and healthy life probable, it is, at the least, a makeweight in favor of many of the most important traits of character; such as patience, a good disposition, deliberation, impartiality, firmness, thoroughness, and perseverance.

DR. SCHLIEMANN,

THE MERCHANT-ARCHÆOLOGIST.

OUR portrait of Dr. Schliemann indicates a fine physical organization; his recuperative powers are unusually energetic, supplying the waste of muscular and nervous tissue with that abundance which is adapted to the life of one whose avocations keep up an almost constant draft upon the nutritive resources. There is mental intensity pictured on that face—an intimation that its owner finds repose in work; or, in other words, freedom from restlessness and nervous excitement is for him the outcome of pretty thorough occupation in some congenial undertaking. The disposition to work is supplied by the large organs of the side-head, which in their turn are aided by the strong perceptive intellect. Dr. Schliemann's forehead gives us an excellent specimen of the type of development which conduces to inquiry and investigation in practical and scientific lines. Such a mind absorbs information without effort—in fact, can not help picking up facts and data, whatever may be its environment. The breadth of the forehead indicates comprehensiveness of view and versatility. The fullness of the side-head forward of the ear shows mechanical ingenuity, the desire to acquire money, appreciation of the humorous and artistic, superior ability as a calculator and organizer. The physiognomy does not impress us with the idea of a social nature which is broad, warm, and luxuriant, but rather that its owner is content with few friends, and finds his chief enjoyment in the prosecution of enterprises acceptable to his intellectual and esthetic tastes.

This eminent explorer and archæological discoverer is eminently a self-made man. He was born in Mecklenburg, Germany, of humble social station, his parents being poor citizens of that city. He was but sixteen years of age when he sallied forth into the world to make his way for himself. With his eye toward the setting sun, he looked to the New World as the theater in which to win fortune and fame. Setting out in a sailing vessel whose destination was a port in Venezuela, his hopes were somewhat dampened in the very start, as the vessel was wrecked on the Dutch coast. Without money or friend, he sought employment in Amsterdam, and with the assistance of the German Consul there, obtained a place as porter in a store. Lacking education and knowing little besides his native language, a hundred dollars a year offered for his services seemed large, and was readily accepted. He was ambitious for learning, and soon after his occupation became established he commenced to study. He was very anxious to be conversant with different languages, so he studied Spanish;

and after making good advancement in that he took up Italian, obtaining such instruction as he could with his meager facilities. He lived cheaply in order to further his studious projects. A friend of Dr. Schliemann gives an amusing account of how he learned the Russian language, as follows:



There was an old Russian soldier left wounded in Amsterdam when the allied armies were on their way to Paris to capture Napoleon. This soldier was in need, and willing to do almost anything for his livelihood he blacked boots. One day Schliemann, who had recently hired him to polish his foot coverings, asked what country he came from, and on being told Russia, Schliemann immediately purchased a grammar of the Russian language, took the bootblack to his room, gave him something to eat, and kept him for a time, using all his own leisure in conversation and study. The daily and nightly floor-walking, conversa-

tion, and loud talking, which continued for some time, made trouble in the house. His landlady desired him to surrender his room on account of the noise which was made by master and pupil. It may be said that the Russian soldier made the fortune of Schliemann, for not long afterward a gentleman came with his family from Moscow to Amsterdam, and while there, visited the place where Schliemann was employed. The Russian could not speak the language of the Netherlands, and no one of the upper clerks, whose business it was to attend to callers, could understand a word of Russian. Matters, therefore, were somewhat embarrassing; Schliemann saw the difficulty, and stepping forward, remarked, "I know what he wants," and so satisfactorily exercised his attainments in the language of the Muscovite, that the latter took a fancy to him, and asked him to accompany himself and family as courier. This opportunity Schliemann at once accepted, and traveled over Holland, Austria, Switzerland, France, Italy, and elsewhere on the continent, finally approaching the borders of Russia, where his patron invited him to go on to Moscow. Shortly after this, Schliemann returned to Amsterdam and made an arrangement with his old employer, who was a banker, by which he was to act as agent for the banking house during his stay in Russia. He established his agency in Moscow, and so successfully prosecuted it that in four years he had accumulated the very comfortable little fortune of ninety-three thousand dollars.

But the glimpse Schliemann had obtained of the world of Europe, had but sharpened his appetite for a sight of the greater world beyond. His eye was still set upon the Western hemisphere. The discovery of gold in California had awakened an interest in Europe as well as America, and the young banker determined to go to California. He came to New York in the winter of 1851–2. From New York he traveled to San Francisco. His design was to start a banking office in California, and taking the advice of those who "ought to know," he commenced business in Sacramento, erecting the first and only fire-proof building there. This venture proved very successful. Schliemann became intimately related to the miners, receiving their gold dust and paying them coin in exchange. In four years he had made upward of four hundred thousand dollars, and with it an almost ruined physical constitution. The climate had not agreed with him, and the medical attendance to which he had been subjected proved equally unsuitable to his health. He now determined to go to Naples and try a course of bathing there, which he had been informed was healing. Doubtless this hygienic recourse proved recuperative, for a year later he was found in St. Petersburg, where he had commenced business of both a commercial and financial character. We are told that he was also interested in mercantile operations in Hamburg and London, and increasing his fortune in nearly every venture. He was not, however, intent upon founding a great commercial establishment, for when he had acquired what he deemed fortune enough, he retired from business, although but a little over forty years of age, and set out upon a series of travels, circumnavigating the globe, visiting California again, and reaching New York broken down with the Panama fever, from which good medical attendance and careful nursing finally recovered him.

Notwithstanding his frequent changes of residence and his very thorough attention to business, he did not altogether give up his studies of language. He learned Greek, and appears to have committed to memory a large part of the Homeric poems; for in the delirium incident to an attack of fever, he repeated parts of Homer's Odyssey in the original. He did not marry until he had reached middle life, and then his matrimonial affair had a decidedly romantic tinge. It occurred in Greece, where he had been engaged for awhile in the studies and investigations preliminary to his excavations at Troy and Mycenæ. He was in Athens, where, in a moment of enthusiasm, born of a discussion of the Greek antiquities and of Homer, he exclaimed: "I will marry the first lady I see who can recite the Odyssey." This statement was repeated by those who heard it as an offer. It certainly was a very

interesting bit of gossip. Here was an American—for he had been naturalized as a citizen of the United States—worth a million of dollars, who was inclined to marry, and the only qualification insisted upon in the lady was a knowledge of Homer. He did not wait very long for a respondent. A fair Greek girl presented herself, told him what she had heard, stated that she was ready to meet the solitary condition. He was pleased with her, offered his heart and hand in answer to her recitations, and they were married. And in all his travels and explorations since, the woman who so oddly won the place of wife to Dr. Schliemann has been a sharer, proving herself a brave and capable ally. In a letter to the London *Times*, written a few months back, with regard to the discovery of the valuable relics at Mycenæ, Dr. Schliemann says: "We have to do the work ourselves, Mrs. Schliemann and I. The task is exceedingly difficult and painful, particularly in the present rainy weather, for we can not dig otherwise than on our knees, cutting with our knives the earth and stones carefully away, so as not to injure or let escape any of the gold ornaments."

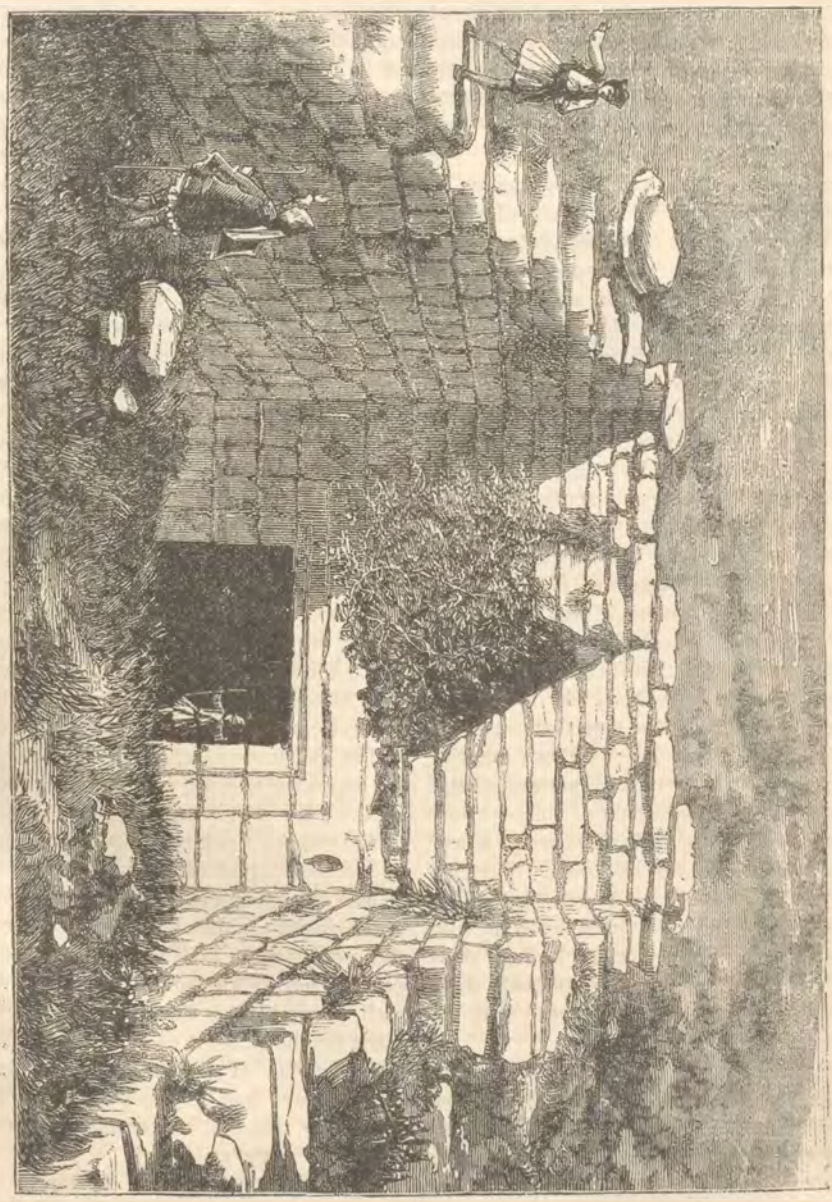
Dr. Schliemann is about five feet nine inches in height, rather portly in appearance, weighing one hundred and seventy pounds, or more, with a full, round, well-shaven face, and having the appearance of a well-to-do merchant. He is now a little over fifty years of age, robust and active, thoroughly American in profession, everywhere declaring his relation to this country, and stating that though his name is German, his heart and his citizenship are American.

With an unbounded faith in the fundamental truth of the narratives of Homer, Dr. Schliemann set to work at his own expense to explore the ruins of Mycenæ, hoping to find under the débris of ages relics of the Trojan period. Although his excavations have been very successful in bringing to the light many articles of gold and bronze, and statuary of rare beauty, and in uncovering the burial cases of ancient princes, yet the best authorities on Greek archæology are not agreed in imputing them to the time of Agamemnon and Hector. From a summary of Dr. Schliemann's discoveries, which appeared recently in *Harper's Weekly*, we obtain a description of the famous Acropolis, or fortress of Mycenæ, the scene of the distinguished explorer's labors.

Mycenæ is "situated in the north-eastern part of Argolis, in the Greek peninsula, and built on an isolated rock which fits, not unlike a wedge, into a valley between two prominent hills. The northern one is Iretus, now known as Mount Agios Elias, and the other one as Sara. The rocky scarp of the citadel toward the last-named hill is so precipitous that no attack would have been likely on that side. Still, there are remains of huge walls now standing in places where the cliff is less perpendicular. On the other side, which was easier of approach, a long wall of the most enduring masonry extended the whole length. This terminated at one end where the rocky point of the wedge looked to the east up the valley, and at the other where the wall turned to the south-east, forming one side of the approach to the famous Lion Gateway, thus named from the figures over the doorway of two lions, which act as supports on each side of a pillar. From this gateway the wall is again continued pretty nearly south-west for a short distance, when it turns with an angle to the south-east, in which direction it runs on again until it reaches the rocky gorge just described. There are inner walls of masonry within this, inclosing the higher ground of the Acropolis. Mycenæ was destroyed by the inhabitants of Argos about 468 B.C., and it is a wonder that any of its walls are standing at the present day; but the massive masonry of the period has been able to withstand the 'tooth of time.' Some parts of the walls are still in as good condition as when first erected."

Dr. Schliemann made a number of experimental borings or shafts all over the Acropolis, but ultimately decided to carry out his operations at the south-west corner, between the Lion Gateway and the wall. He speaks of the structure as "a vast Cyclopean house," and the discovery of gold and other valuable articles within these walls he considers as evidence of its having been a regal abode.

Supposing it to have been a palace, its close proximity to the royal tombs would seem to show a custom in early Greece similar to that mentioned in the Bible, where Manasseh is described as having been buried "in his own house" (2 Chronicles xxxiii. 20), or, as it is put in one of the earlier books, "in the garden of his own house" (2 Kings xxi. 18). These tombs are connected with a very remarkable structure which has been brought to light by Dr. Schliemann's explorations. It is a structure which is entirely new to the students of classic archæology.



VIEW OF THE "TREASURY OF ATREUS AT MYCENÆ.

This interesting monument is a circle about one hundred feet in diameter. It is

composed of two concentric circles of stone about two feet six inches apart. As most of these stones are broken or imbedded in the earth, it is not easy to give their height; but one or two which have been left standing are between five and six feet high, about two feet six inches wide, and over four inches in thickness. Some of them are now only about a couple of feet above-ground, but to what extent they were originally covered below, it is now impossible to say. The space between these two circles seems to have been bridged over with slabs of stone, and the upper edges of the stones have been all morticed to receive tenons, which, no doubt, kept the horizontal slabs above in their places. All these stones seem to have been worked tolerably smooth and fitted neatly together, so that the whole, when complete, must have had much the appearance of a circular stone bench. The only break in this circle is at its north side, where there is what now seems a recess; but as the outer extremity is not composed of slabs similar to the rest of the construction, but is, on the contrary, filled up with rude stones and rubbish, it was most probably open, and formed the door of the inclosure. The idea that it was the entrance is strengthened by its being on that side of the circle nearest to the Lion Gate, at which it would be approached by those entering the Acropolis. There is a very remarkable arrangement on each side of this entrance or recess. The upright slabs are so placed as to form inclosures like cells. They are scarcely long enough for a tomb, but a living man could easily be stowed away in one. A prisoner to be tried could be kept there till the judges assembled. No doubt these stone boxes were also connected with the slabs, like the rest of the circle.

It is supposed that the place was one of public assembly, open to the public, so that all going on within could be seen, and yet separated from the outward crowd by blocks of stone forming a line of inclosure. That public places of assembly and justice were held in circular inclosures, we have evidence from Homer himself, and as his evidence takes us back to the period when Mycenæ existed, his descriptions are of value as bearing on this point. The close position of this inclosure to the Lion Gateway, it may be remarked, is an additional reason for accepting this view of the matter. It was at a very primitive period, when the king or chief sat in the gate to administer justice; and later, when the court had to be extended, its judicial duties were still performed in this open public way. We may suppose that the nearest open space within the gate would be selected, and the lower terrace of the Acropolis overlooking the city is exactly suited to the purpose.

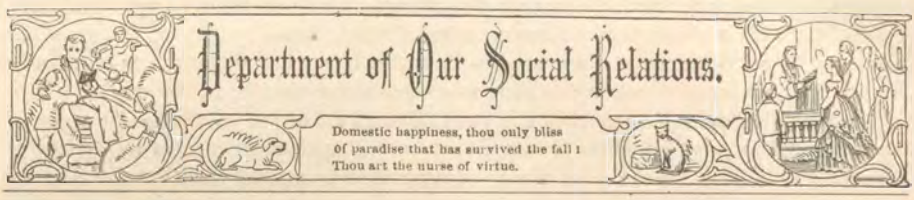
It was within this circle that the tombs were discovered by Dr Schliemann which yielded such a harvest of ancient treasure. From these specimens of ancient art the explorer insists, with his usual enthusiasm, upon the reality which belongs to everything which Homer describes in relation to Troy, and that we are now having revealed what the poet was familiar with when he wrote; for the modern theory that the story of the Iliad is nothing more than a myth finds no lodgment in his mind. Professor Ernst Curtius, the German archæologist, who has been at Olympia, charged with the direction of excavation there by the German Government, is not satisfied with Dr. Schliemann's view of his results, but acknowledges himself to be puzzled about their true history.

The illustration represents the ruin of the entrance to what is named the Tomb or Treasury of Atreus, which has been one of the objective points of Dr. Schliemann's researches. Much of the masonry of this remarkable monument of the past is still in good condition, showing how substantially those old Greeks built when they aimed at permanency. The doorway is a simple arch, over which is the triangular opening made for the purpose of relieving the lintel from weight. This introduces the visitor to a doomed hall forty-seven by fifty feet. Adjoining this hall is a smaller apartment excavated in the solid rock.

Near the Treasury of Atreus is the "Tomb of Agamemnon," or Second Treasury, where Dr. Schliemann discovered many interesting relics. It is also termed the Tomb of Cassandra. It is constructed in a style very similar to the Treasury of

Atreus, but is not as well preserved. Other monuments possessing much interest to the antiquary lie in the neighborhood, but the absence of any inscriptions leaves the purpose for which they were constructed a matter of conjecture.

The objects found by Dr. Schliemann have been forwarded to England and placed in charge of the National Bank. They have been placed under the care of that institution for safety, and will remain there in the strong room till a suitable museum can be provided, where they will all be labeled, and exposed, in proper cases, for the pleasure and instruction of the public. Dr. Schliemann is said to have expended over three hundred thousand dollars of his private fortune already in these laborious researches.



BE WHAT YOU ARE.

MANY years ago, when lucifer matches were yet unknown, and the tinder-box, with its flint and steel, formed the only domestic instrument for obtaining a light, a little old man used to walk about in one of the suburbs of London holding in his hand a fan-shaped bunch of matches, made, as usual, in those days, of splinters of resinous pine wood tipped with brimstone. He never offered his goods, except by a silent gesture, nor did he make them an excuse for asking charity, as many others were in the habit of doing. The good-natured servant girls who saw him pass their windows would run up from the area with a smile and a halfpenny, and call out, "Master, some timber;" but they never spoke of matches. "Timber, madam?" the old man would say; "yes, madam;" and with a grave face and a courteous bow would take their money and supply their want. It was reported that the old gentleman had seen better days; perhaps he had at some former time dealt in pine logs, and carried on business on a large scale; now he called himself a "small timber merchant," and if any one addressed him as the "matchman," or asked him for a half-pennyworth of brimstones, he would take no notice of the speaker, but turn away in disgust, as if it were impossible for him to have any dealings with such a customer. Of course the poor old man was crazy, and those who knew him humored and pitied him. But how many people are there in these days crazy after the same fashion, without being aware of it themselves or suspected of it by their neighbors! How common it is for men, and women too, to represent themselves as something greater or of more importance than they really are!

The small tradesman carrying on business in some by-lane calls himself a merchant, his shop an emporium, his back kitchen a warehouse, and his cellar a depot; the bricklayer or carpenter is a contractor; the hairdresser is a professor; the wig-maker is an artist in hair; and the milkman, a purveyor; while the dressmaker presides over the mysteries of her art in a *magasin des modes*. The same spirit shows itself here and there among all classes. In answer to an advertisement for a hospital-matron a "lady-superior" offers herself; and if a mistress is wanted for an infant-school, applications are made, not always grammatically expressed, for the post of "governess." A father brings his daughter to the house of a lady who has been inquiring for a housemaid. She wears an imitation fur jacket, imitation gold earrings, and an imitation chignon, or plait, made of cotton or hemp

by some new patent process of this imitation age, with a curious bunch of gauze, feathers, ribbons, grapes, and flowers, hung on behind by way of a bonnet; her hands are encased in lavender-colored kid gloves, and she carries a light parasol in her hand, though the day is overcast, and an umbrella would be much more to the purpose. She makes an imitation bow when the mistress of the house enters the room; and her father, who is proud of her appearance and manners, introduces her with the appropriate words, "This is the young lady, ma'am, as is open to an engagement for your situation." The owner of the house, who has no intention of resigning her situation, but only wants a housemaid, declines the application.

There are pretensions of a worse kind than this. A well-educated youth, for instance, leaves school and is placed in an office or under articles, with a view to his future profession. His fellow-clerks or fellow-students appear to him by their costumes and conversation to be "great swells." He does not wish to be thought inferior to them, and very soon learns to imitate their style and adopt their manners. He hears them talking largely of their parentage, of their exploits and their extravagances; and he wishes to be thought as rich, as gay, and as reckless as the best (or worst) of them. If they smoke, he must do the same; if they drink, he will drink with them; if they behave like heathens and talk disgracefully and vilely, he affects to admire their conduct and to enjoy their conversation. All this may at first be very much against his better instincts, but he fears to be ridiculed; and, in a word, would rather be accepted for what he is not, and ought not to be, than be esteemed for what he is.

Every kind of pretense is bad: to pretend to be better than we are, is hypocrisy; to pretend to be greater than we are, is vanity and folly; but to pretend to be worse than we are, for the sake of winning favor with those whose favor is not worth having, is at once the worst and silliest pretense of all. Whatever a man's position or calling may be, if it be a thing to be ashamed of, let him abandon it; but if it be not wrong or disgraceful in itself, let him never be ashamed of it.—*Sunday at Home.*

THE WOMAN-HEART.

HEARTS can not help being hearts, or women's hearts from being women's hearts. Not that all hearts are women's hearts, or that all women's hearts are alike. The heart that most of all others can not help being what it is, is the woman-heart. It can not help reaching itself out with longing for love and sympathy, can not help loving something or somebody, can not help its own tenderness, and can not help quivering when hurt over and over by the same hand, and that the hand of one for which it has bled and suffered, ached and denied itself over and over, without stinting or grudging. It may forgive a great deal; it may laugh off a great many wrongs, but it must sometimes rebel by virtue of its own goodness. The love which is so strong in the elements of love is also strong in the elements of passion, and its strength unsatisfied by the proper exercise can not always be hurled back upon itself, and it must either break the heart by the burden of its weight, or break forth in its wrath and wounded sensitiveness and speak its mind sometimes. Give the woman-heart its due; draw it out of itself and give it some return for the wealth that is in it, and see what a fond, brave heart you will find it. Give it husks for food and starve it till its strength can no longer keep itself within itself, and is it to blame if it bursts out and sweeps its fury over you more merciless in its rush than a torrent or a hurricane? The very fact of its bursting forth is the more proof of its fullness. It is hard for the tender, quivering sense to writhe and ache within itself forever; and when tortured into bursting through the very agony of long endurance, and every nerve has wept itself into the last stage of exhaustion, under one's eyes, could not *that one* afford to spare it a repetition of the same

long irritation, and the same quivering agony of the same nerves? Could not one afford to remember that it is the same woman and the same heart, and save it a long succession of galling sorrows to culminate in the same way? Could not one spare it the weakness and the anguish, the suffering and the premature age which comes from overwrought feelings which it can not help possessing? Could not all its weight of fondness, all its patience and long-suffering be rewarded with some small pittance of its kind, instead of forcing its good all backward and its bad all forward, when the worst of its badness is only goodness if met in the simple spirit of justice? Would it not be well to remember that hearts *are* hearts, and need to be treated as hearts? Also: would it not be well to bear in mind that the woman-heart, so sensitively organized, has wants and needs, and that the woman-life has cravings beyond a shelter, a crust of bread, and life-long drudgery? Give it the greatest possible latitude and the woman-life must be cramped in many things. A woman *can not* be an independent mortal; try her best, she can not. She has pride of feeling and independence which she likes respected, but they must all break down in sorrow if people who are nearest to her heart will that they shall. Is it fair to force her to this misery? She has little bird-like, cooing, home-ways, and can be very happy with love and a little besides, if let alone.

She *must be* made something of. She can not bear slight upon slight her whole life without some show of resentment. The deeper her feeling, the more difficult will it be for her to bear. She may bear the longer, but the pain to her is what the shallow can know nothing of. When her feelings have been tortured into an anguish so terrible that every nerve writhes with a visible, ineffaceable agony, should not the footprints remind one to save her from the same thereafter? From childhood to youth, from youth to womanhood and onward, I have seen the most womanly of girl and woman-hearts tortured and tormented thus; willfully, coldly, cruelly, and each time more cruelly than the last, and in as frequent succession as possible; and the more frequent, the better to the torturers. Can not people learn that the woman-heart is a thing to be sometimes humored, appreciated, and sometimes to have its way? Can not people learn ever to see how deeply a woman can feel? Must they always drive the most affectionate of hearts to bitterness and madness? Are not the deep sacrifices of woman enough of recompense for a little attention, a little consultation of her wishes, a little deference sometimes to her views? Was she born to be an underling, and stay at home and wash dishes always, or does she not, through the nature of her womanhood, accept the home position from views of the exaltedness of her sacrifice and the ennoblement of her duties? It is because she *is* a woman that a woman wishes to remain a woman, enjoy the shelter of home, love and be loved. It is not inferiority of intellect. If it were, she might accept slight and wrong calmly from knowing not her rights.

The true man never forgets or fails to see these rights. Neither does he wait to hear them asserted or force her pride to aching because she shrinks from pleading them. He thinks for her. He does not always advertise a favor to her as a mountain. He makes her think the acceptance of it will be a favor to himself. He does not make her *beg* for favors and never grant them, but thinks for her and does them without the asking. If inadvertence leads him once amiss, he will not go on all his life making the same blunder. He has sense and tact, and if he can not see that he has done wrong, he will not be ashamed to ask wherein he has erred or wounded, and make the proper amends so far as he can. There are some griefs that leave their indelible traces, and it is the repetition of these that eats away the sweetness and beauty of life. According to the theory that hearts can not help being hearts, I suppose that non-hearts can not help being non-hearts, and this may be the reason why so many with hearts are called to suffer so acutely. Persons who can feel themselves are likely to know that others can feel. True manhood is likely to feel for true womanhood. MADGE MAPLE.

THE LESSON OF THE GRASS.

"O! green and fresh, and ever cheerful grass,
That lines the path I pass—
Less cheerful I, alas!—
Why should you look so bright?"
One to me said, who, looking through a glass,
Saw not the world aright.

"The place the God of Nature gave, I fill
According to His will
Beside this babbling rill,
Where you so often sigh,
In valley low, or on the rounded hill,"
I slowly made reply.

"I creep along the winding river's bank—
The steep and dangerous bank—
Where never flocks have drank.
Yet I, in safety, go
Down the rough cliff, and on the margin dank
All silently I grow.

"And on the highest peak, where man ne'er trod,
From out the icy sod—
Where dwarf shrubs o'er me nod—
I shoot my hardy spears;
On trackless wastes forever known to God
At times my leaf appears.

"But when his stern and biting frosts are sent,
I wither in content—
My glory being spent;
For summer sun and dew,
Warm winds and floods, all in their season sent,
That glory will renew.

"And yet, behold, a higher life than mine,
O, weary one, is thine;
Why should you so repine
At fortune's brooding face—
Formed in the image of the One Divine,
And favored by His grace?"

I know not how my silent speech he knew;
But to the distant blue,
His eyes from me he drew,
Sustained his earnest look—
"I will, undaunted, still the right pursue;"
Then left the rippling brook.

MARIE S. LADD.

WILLIAM H. VANDERBILT,

PRESIDENT OF N. Y. CENTRAL AND HUDSON RIVER RAILROAD.

THE above portrait is not taken in the best manner to show the strength of the character of the original; the head is too much elevated and thrown back, which makes the forehead not only seem retreating, but relatively much smaller in the picture than would have been the case if the head had been straightened up so that all parts of the face and forehead would have been at relatively the same distance from the camera. Nevertheless this is an interesting subject to study. The temperament is predominantly mental-vital; the former giving fineness, intensity, and clearness, and the latter giving health, strength, vigor, endurance, and laying the foundation for long life. He has descended from two most remarkable people. His mother, in her way, was quite as remarkable as Commodore Vanderbilt, his father. He inherits enough from each parent to make his characteristics a harmonious blending of both. His mother was a very superior woman. She had great sagacity and forethought, remarkable prudence and economy, and that intuitive sense of truth which qualified her to do the right thing at the right time and in the right way. The father was impulsive, headstrong, dashing, daring, persistent, thorough, extremely individual, and independent in spirit; a man who could not consent to be dictated to or governed; refrained from partnership; owned everything he touched; and when he undertook the management of the great railroads, it was in consideration of his being the leading spirit and acting without a master. Notwithstanding this great strength of determination on the part of Cornelius Vanderbilt, he listened to his wife. He knew her thoroughly. He re-

membered that in his early years, when he had sorely needed a considerable sum of money to enable him to pay for a vessel whose purchase would be greatly to his advantage, she had advised him to buy it, and, to his astonishment, gave him two thousand dollars, which she had saved, and which



enabled him to complete the purchase and go on his way prosperously.

We believe thoroughly in hereditary descent; that all the greatness which individuals manifest is derivable from a happy combination of qualities in the parents with favoring circumstances and influences previous to birth. Education does much to bring out and refine inherited powers, but no amount of polish will give an even and solid surface to coarse chestnut or hemlock timber, and no amount of intellectual training will change a person who is constitutionally coarse, flabby, and weak into a man of vigor, refinement, power, and endurance.

The subject before us resembles his father strikingly in many respects. At the same time we see a modification of expression and form which must have been derived from the mother, and we feel confident that

in so far as he resembles his mother, it is an improvement to his character and constitution. The Commodore inherited largely from his mother's side; consequently the feminine, intuitive spirit strongly marked his character and talent. It tended to give him that readiness of decision and that certainty of being correct which does not come from the slow, logical method which distinguishes the masculine mind. William H. thus takes on both the masculine and feminine elements by inheriting from the father. He gets from that direction courage, force, will-power, unswerving determination, and also much that is intuitive, sensitive, and susceptible. By inheriting from his own mother, who, we judge, inherited largely from her father, he gets similar elements of strength, and also a practical, intuitive sense of truth which belonged to his mother, thus braiding and blending the four elements derived from his masculine mother and his feminine father. By this we do not mean that the mother was grossly masculine, or that the father was weakly feminine; but we do mean that he who is fortunate enough to inherit his mother's intuitions and sympathetical sensibilities is largely more a man than he who acquires solely from the father the dry logic and the laborious energy that belong to the masculine. If the reader will take into account, then, this combination of quality and tendency, talent and disposition, he will be able to understand the following inferences: First, that the subject is very clear-headed; that he knows for himself, and seeks to find out truth in such a way as to be able to act without advice or external influence. He seeks what other people know as the material out of which to form his own judgment; but like his father, he does not accept dictation. He has a memory which enables him to hold his knowledge and carry it, as it were, in solution, so that all he has ever known he knows now. Like one who winds up a ball of yarn, he carries his facts and knowledge with him so that it may be unwound and brought into use at any moment. He is known for criticism as well as for quick observation. He reads the stranger promptly, and knows how to select men for their right positions. His mind is more ready in forming judgments than is common, and whoever offers him facts on which to base a judgment, must talk to the point and hurry through their recital, or he shows impatience. He has the power of combination and orderly action. He would appreciate machinery and the combinations of affairs so as to make everything flow smoothly and harmoniously. He is not led away by imagination. He dislikes people who tell great stories or spin long yarns; he wants the facts, and he can make the inferences and draw the conclusions. He is more cautious than his father; is guarded, prudent, painstaking, and will look after details very sharply. He is energetic, courageous, very positive, and very headstrong, but more cautious in the adopting of plans and purposes than many; yet persistent, and remarkably executive in carrying out his will. If he had been carefully educated he would have succeeded well in literature. He has good natural language, power to express clearly and vigorously whatever thought he wishes to put forth. He has respect for age and talent, and would be tender toward the aged and inclined to pet the young.

He is ambitious to be approved; cares more for public sentiment than his father did, and is more influenced by the good and ill opinions of the people. He is firm—quite as much so as the father, and those who oppose him will think him absolutely obstinate. He has strong affections; his friendship is steady and constant; he is fond of

home and society; and under favorable conditions would show a great deal of personal magnetism in the direction of friendliness and cordial social sympathy.

He is not a copyist; likes to do things according to his own pattern, and would feel annoyed if it seemed necessary for him to imitate others. He is a natural economist; careful to use everything in a prudent way, and guards against loss and damage in all he does. But he is not penny wise and pound foolish; spends his money freely where it will bring proper return, but he will not go into rash and hazardous speculations. He wants a sound basis for all he undertakes, and on that sound basis he pushes steadily, persistently, and constantly toward the desired end. He is capable of conciliating those who oppose him, but he does it more from friendliness and good-nature than from any feeling of weakness in his cause. He seeks to see the end from the beginning before he attempts an enterprise; and once settled upon its prosecution, he presses onward with just as much strength and speed as the case will safely bear. We predict for him in his great field of labor a success equal to that attained by his father, carrying with him the elements of safer and more popular administration.

William H. Vanderbilt, eldest son of the late Cornelius Vanderbilt, was born at New Brunswick, New Jersey, May 8, 1821. His early life was characterized by much of the energy and industry which had distinguished his father. He was sent to the Grammar School of Columbia College, where he acquired the requisite knowledge for a business life.

To his youthful mind, however, his father's example was a perpetual incentive to strike out for himself, and he eagerly looked forward to an early beginning of these efforts. At the age of eighteen, he entered the house of Drew, Robinson & Co., of Wall Street, where, as a clerk, he soon won the confidence of the firm, then known as one of the strongest operators in stocks in the street.

At the end of two years Mr. Vanderbilt's diligence had impaired his health, and he determined to try his hand at farming.

Leaving the office where he had the opportunity to become a partner in the firm at the early age of twenty-one, he grappled with the responsibilities and difficulties of cultivating an unimproved farm. He had no previous education or experience in agricultural methods, but he set boldly to work, and "from early morn to dewy eve" labored in his fields, never permitting others to do more than himself. The first seventy-five acres subdued and cultivated, he extended his labors until, in a few years, he had three hundred and fifty acres in fine and profitable condition on Staten Island. The wastes and barrens were transformed into a garden, and yielded to the owner a good income.

He was subsequently appointed to the Receivership of the Staten Island Railroad Company, which had become loaded with debts and embarrassments, and in this position he evidenced the talents which have made him one of the first railroad men on the continent. In two years he had paid off the claims against the Staten Island Company, connected it with New York by an independent ferry, and placed it upon a substantial financial basis. The stockholders then pressed upon him the Presidency of the company, which he resigned when called to Europe to attend upon his dying brother, George.

On his return, he entered again upon a busy career. In 1864 he was elected Vice-President of the New York and Harlem Railroad Company, and the following year, of the Hudson River Railroad Company. From this time forward his life has been part of the railway history of the country. At once the confidant and son of the Commodore, he became the able assistant through whom the comprehensive plans of that master-mind were carried into quick and successful execution.

In 1869 the Central and Hudson River

Companies were consolidated through the instrumentality of Commodore Vanderbilt, creating a new corporation of unrivalled wealth and power, and Mr. William H. Vanderbilt was named in the articles of consolidation its Vice-President and Executive Officer.

Mr. Vanderbilt was married, in the year 1841, to Miss Kissam, of New York. His railway cares and interests have never weaned Mr. Vanderbilt from his early love of agriculture. He still manages his farm, and has always remained, practically as well as theoretically, a farmer. It is there he goes for recreation and change of work. He has constantly extended his personal culture, and developed especially a natural taste for art. In his mansion on Fifth Avenue are to be found many works of art which attest his judgment and taste.

"Billy," as his father always called him, inherited by will the bulk of his father's estate, which consists mainly in railroad property, the Commodore, doubtless, regarding him as capable of administering it with the sagacity essential to its security and enlargement.

He has succeeded to the Presidency of the roads long under the late Commodore's control, and is Vice-President of several others in the West and South. In his manners he is warm and genial; liberal in his charities and hospitable in his social disposition. That he is not in sympathy with the drinking habits of people would appear from an incident published in the New York *Evening Post*, which was substantially this: The lessee of an eating-house owned by the railway company had been paying six thousand dollars a year for it. One day Mr. Vanderbilt said to him: "If you will give up your bar—stop the sale of liquor—I will reduce the rent to $1,500." The offer was accepted.

MY AUNT PENELOPE.

SHE was an awful woman. Not awful in any of the senses in which girls use that comprehensive word. She was truly awful. Not "*sweet* and awful," either, but just awful.

She was awe-inspiring!

I was named for her, but was humanely called Nellie, to her infinite disgust. My gentle and submissive mother would, without a doubt, have yielded to her demands and burdened my babyhood with the length and breadth of the heirloom, but I had big brothers! So my god-mother had to content herself with having the "right name" given me by the minister on christening day, when my defenseless bald head bobbed above a pile of muslins and tucks and embroidery (which I could much better appreciate now than then), and with strictly calling me by it herself, on all occasions, and, after I grew up, on some very trying occasions, too.

Aunt Penelope did not live with us. If she did, I would not have dared, to this day, I presume, to call my life my own; such a power as that woman held over me! How she acquired it I never knew. She always had it since I was susceptible to any influence at all.

She was a stone wall of positiveness! She had her opinions! I never referred but one subject to her decision that she did not settle. That was—ghosts! Aunt Penelope was of the earth, earthy; she did not seek to divine the ethereal mysteries of the spirit world.

Her expressions and sentiments always had the effect of evil magic on me. They were generally averse to mine, and consisted in bare assertions, without a shadow of argument or reason, but were dealt out so positively and emphatically, that no appeal of mine, however eloquently addressed to reason, ever seemed to make the slightest impression on her granite mind. This was what troubled me, worried me, vexed me; I had my own opinions, and I couldn't help it; she had hers, and I couldn't help that either. My arguments seemed like a child's prattle in the presence of her positive knowledge.

She rarely liked anybody. When she did, it was sure to be some one I hated. I was

afraid, always, to commend any one, in her presence, for I so much dreaded the imputation of bad judgment which her withering epithets or black silence were sure to imply.

Her daughter and myself, though good friends, went in entirely different sets, or rather, she rarely went in any set, while I mixed freely in such society as the rural community afforded, and made the best of things in a truly philosophic style. But I could not rise to the table-land of indifference to my aunt's sneers. Brave it as I might, I could not allude, in Aunt Penelope's presence, to having spent an evening with a young associate whom she had seen fit to "taboo," without an awful sinking of my self-esteem. I knew that she was mentally weighing me in the same balance in which she had found my friend wanting, and I sometimes actually wondered if she considered me a respectable girl. I thought if she did, I might consider myself highly favored, for she certainly did not honor many of the girls with that opinion.

And yet, with these absurd facts before me, I could not throw off the influence of her prejudices. They clogged me in every independent movement I tried to make. They haunted me like an army of hobgoblins. I kept fighting bravely, valiantly, against what I called my cowardice, and though I gained some puny victories over myself, I was never able to deprive my aunt of one of her opinions. And the hobgoblins remained.

However, the unhealthful influence imposed upon my sensitive growth brought some recompense. I ground my weapons on Aunt Penelope's caustic scissors. I raised my bump of Combativeness an inch or so, and the only reason left for my failing to cleanse the Augean Stables of my awful relative's understanding was that I was not Hercules. Alexander could sniffle because there were no more worlds for him to conquer. He had merely taken men into his calculations when he bragged about having conquered a world. I'd like for him to come back and have a tilt with Aunt Penelope! He'd be sure to take cold and go back to his grave sniffling and disgusted.

I am naturally ambitious. I have often indulged day-dreams of rising in my might and doing some great thing for the cause of humanity and a greater thing for myself. In fine, to lecture! But I never hinted it to Aunt Penelope. She informed me long ago that she wanted nothing to do with "lady lecturers," "there wasn't a nice woman among them!" Considering the fact that she had never seen or heard one, and knew nobody who had, except friends to their cause, I thought this a most remarkable piece of intuitive knowledge. But it had its absurd weight with me, nevertheless.

Aunt Penelope was an awful woman. She is yet. I may be gifted with genius sufficient to turn the world inside out, and make it all over again, but I doubt if I ever do anything of the kind. Whether I was erected for the purpose of lecturing, preaching, or legislating, I rest in hope that in the last great day, when the Judge of the earth shall call for my excuse, He, who made all kinds of people, will pass me on, when I tremblingly falter—"Aunt Penelope."

MINNIE MYRTLE.

"WHAT OF THAT?"

"Tired! Well, what of that?
Didst fancy life was spent on beds of ease,
Fluttering the rose leaves scattered by the breeze?
Come, rouse thee! work while it is called to-day!
Coward, arise! go forth upon thy way!

"Lonely! And what of that?
Some must be lonely! 'tis not given to all
To feel a heart responsive rise and fall,
To blend another life into its own.
Work may be done in loneliness. Work on.

"Dark! Well, and what of that?
Didst fondly dream the sun would never set?
Dost fear to lose thy way? Take courage yet!
Learn thou to walk by faith and not by sight;
Thy steps will guided be, and guided right.

"Hard! Well, what of that?
Didst fancy life one summer holiday,
With lessons none to learn, and naught but play?
Go, get thee to thy task! Conquer or die!
It must be learned! Learn it, then, patiently.

"No help? Nay, 'tis not so!
Though human help be far, thy God is nigh,
Who feeds the ravens, hears His children's cry.
He's near thee, wheresoe'er thy footsteps roam,
And He will guide thee, light thee, help thee home."

PEACEMAKER GRANGE.

CHAPTER XVII.

A CONSTITUTIONAL DISCUSSION.

THERE was grave discussion in Judge Templeton's parlor one day soon after Thanksgiving had been duly celebrated. The New Yorkers were about to return home. Reynolds had fully determined to cast in his lot with the Association, and Anthony was half persuaded to do the same. They both wanted to get a thorough understanding of the Constitution of the Society.

There were present at this time the Judge, the Pastor, the Judge's wife, and the two young ladies.

"We have endeavored," said the Judge, to make our legislation very simple, but very explicit. I will ask Miss Edith here to read this our original and only Constitution in her lucid manner; and then we can talk about it. We have not found it necessary as yet to amend the document, as all needed additions on minor matters have been put in the by-laws."

Miss Edith read as follows, while Anthony looked at her and her subject apparently from a severely philosophical and critical point of view, and Reynolds looked at Alice in a way that said:

> "It seems as if this world was made
> For only you and me."

CONSTITUTION

OF THE

PEACEMAKER GRANGE.

ARTICLE I.—TITLE.

SECTION 1. This Association shall be called "The Peacemaker Grange."

ARTICLE II.—OBJECTS.

SECTION 1. Its general objects shall be to obtain for its members all the spiritual, moral, and physical benefits derivable from the intimate association and coöperation of a large number of persons in all relations of life.

SEC. 2. From a business point of view the objects are to establish: The unitary household, coöperative labor, joint-stock property, association of families, mutual guaranties, honors according to usefulness, equitable distribution of profits, integral education, unity of interest.

ARTICLE III.—PRINCIPLES.

SECTION 1. While aiming to be strictly eclectic in its fundamental principles, choosing the best from the moral codes of all times and nations, the Society demands as a convenient and generally satisfactory test of eligibility to membership, that candidates shall declare their acceptance, as rules of life and action, of the Ten Commandments of Moses and the Nine Beatitudes of Jesus (Matt. v. 1–12), as commonly interpreted; or they shall at least express their willingness to conform to the spirit of "self-control" inculcated in the former, and of "self-sacrifice" in the latter.

SEC. 2. All disputes of members shall be settled by arbitration within the Society.

ARTICLE IV.—MEMBERSHIP.

SECTION 1. The Society shall consist of Full and Probationary members. No person is to become a full member without the unanimous consent of the existing full members.

SEC. 2. To entitle any one to be voted for as a probationary member, such person shall subscribe and pay for one share of the capital stock, and the amount so paid shall be refunded in case the applicant is rejected. Probation shall last six months; but during the first six months the Council may admit persons at once to full membership.

SEC. 3. Members on probation shall receive the same remuneration for work as full members, but shall have no interest or voice in the annual distribution of surplus profits or in the management of affairs.

ARTICLE V.—MANAGEMENT.

SECTION 1. The management shall be vested conjointly in two bodies—one self-perpetuating, called "The Council." The other shall consist of the usual officials of a joint stock company, a President, Vice-President, Treasurer, Recording Secretary, Corresponding Secretary, and an Executive Committee of twenty-one members, to be composed of the above officers, and sixteen other members. Seven shall constitute a quorum of this committee.

SEC. 2. Other officers and committees, heads of industrial, educational, financial, and commercial departments, may be appointed as shall be provided in the by-laws.

ARTICLE VI.—THE COUNCIL.

SECTION 1. This body shall consist of the original committee issuing the "call," with such members as they shall from time to time add to their numbers unanimously. Six months after the Society settles on a domain, all members of the Council who have not become resident members of the Society shall be retired to the position of "honorary" members of the Council (without votes) until such time as they shall become resident members of the Society.

SEC. 2. The Council shall not originate any laws or movements, but shall simply have a veto power over the legislation and general lines of action of the Society. Its decisions to be effective, must be unanimous. The rules given below concerning meetings and duties of officers and members shall not govern the Council as such.

ARTICLE VII.—DUTIES OF OFFICERS.

SECTION 1. The duties of the elective officers provided for in Art. V., Sec. 1, shall be such as usually pertain to those officers, and such as the by-laws provide.

SEC. 2. The subordinate officers provided for in Art. V., Sec. 2, shall discharge such duties as the by-laws prescribe, under the direction and supervision of the Executive Committee.

SEC. 3. All violations of the Constitution and by-laws by members shall be taken cognizance of by the Executive Committee, and such remedial action taken as the by-laws provide.

SEC. 4. Security bonds of financial and commercial officers shall be taken, and such checks and balances provided to prevent fraud and mal-administration as may be in accordance with provisions to be contained in the by laws.

ARTICLE VIII.—PROPERTY, STOCK, BONDS, ETC.

SECTION 1. The capital stock of the Association shall be the value of the personal and real estate, limited only by the law of the State, or by special charter, should a charter be granted by the State.

SEC. 2. The property shall be held by trustees for the Association, until it shall be constituted a legal corporation, by organization under a special charter or general act of the State as may be found practicable and needful; and there shall be due provision for the perpetuity of the trust.

SEC. 3. The capital stock shall be divided into shares of five hundred dollars, each member to hold one, and only one share.

SEC. 4. If stock subscriptions shall not be found sufficient to furnish means, bonds of the Association shall be issued to any person, in sums of one hundred dollars and one thousand dollars, bearing interest at five per cent. with yearly installment coupons of five per cent. of principal, each coupon bearing interest to the Society at five per cent. to the time of the payment of principal. These bonds are to state on their face the specific purpose for which they are issued, whether for purchase of real estate or for the means of inaugurating industries. The things purchased by them are to become the property of the Association when the bonds are paid, which will be in about thirty years by the payment of interest alone. Purchasers of the bonds to the amount of one thousand dollars shall be entitled to the economies and social privileges of the Association. The income from them will be about equal to a "life interest" in their amounts.

ARTICLE IX.—PRODUCTION AND DISTRIBUTION.

SECTION 1. At present the payment for each branch of labor shall be made monthly, at current rates for similar work outside, whether by the day or piece, less deductions for the following purposes:

a. A percentage to a guarantee fund sufficient for the support of members who from any cause have been unable to support themselves—aged, sick, and unfortunate persons.

b. A percentage to an insurance fund to reimburse the Association for possible losses from the action of the elements. This fund to accumulate until it amounts to a sum equal to the value of all the buildings and other perishable property.

c. A percentage for school, library, reading-room and all other expenses for the common benefit.

SEC. 2. The balance of the gross product, after deducting the above items, shall be divided on the annual settlement day among the shareholders, in proportion to the amount of their earnings, except in years when the members agree to forego dividends in order to enhance the value of the aggregate property.

SEC. 3. The dividends provided to be awarded in Sec. 2, may be paid in subsistence, in the currency of the country, in currency current in the Association, or in the above bonds, as the recipient may elect.

ARTICLE X.—ANNUAL AND SPECIAL MEETINGS.

SECTION 1. Annual meetings for the election of officers and for the transaction of business shall be held on the second Tuesday of January in each year.

SEC. 2. Special meetings may be called at any time by the Executive Committee,

and it shall be their duty to call special meetings, on receiving a written requisition signed by at least seven members. The call for special meetings shall state the object of meeting, and no other business shall be considered than such as is mentioned in the call.

ARTICLE XI.—ELECTIONS AND QUALIFICATION OF VOTERS.

SECTION 1. Elections shall be by ballot, and a majority shall elect.

SEC. 2. None but members shall be voters, and each shall be entitled to one vote.

ARTICLE XII.—MISCELLANEOUS.

SECTION 1. Shares shall be issued and transferred in the usual manner.

SEC. 2. Members desirous to sell their shares of stock in the Association, at a price then current, shall first offer the same to the Executive Committee, for the Association, and the option shall continue thirty days.

SEC. 3. The Executive Committee may rent to individuals and firms, such portions of the property of the Association as it has no use for, and lease sites for residences, under such restrictions and limitations as are provided for in the by-laws.

SEC. 4. Freedom of religious belief and worship is guaranteed to all members.

SEC. 5. The Constitution may be amended by a two-thirds vote of the Association, with the concurrence of the Council, notice of the amendment having been posted for ninety days on the bulletin boards of the Association, prior to the vote being taken.

"Section 1, Article II.," said Judge Templeton, "is both simple and comprehensive. In Section 2 we have a sort of Fourierite programme; and all said and done, there is no one to compare with Fourier for plotting out the external machinery of scientific living. In the internal, spiritual machinery he is not so clear. One strange thing is, that in spite of such very explicit statements, people of intelligence and education, who have read about these things all their lives, persist in calling Fourier a Communist, whereas he only asks for joint-stock proprietorship."

"I see," said Anthony, who was holding a copy of the Constitution in his hand, "that Article III., concerning 'Principles,' is very carefully prepared. The hasty critic would say, at first glance, that you presented a religious test. But close examination shows that your test is only a moral one; as you simply call for the *spirit* of the Decalogue and Beatitudes."

"Yes," said the Judge, "I did not see so plainly as the Pastor how necessary such a specific statement of our moral position was. I was inclined to say, as have many others since, Why refer to the Decalogue, when our whole system of United States laws is ostensibly founded upon that code? The Pastor said: 'You are technically right; but few realize the fact, and it should be put continually before the people. They especially who undertake integral association must have a very plain understanding as to the basic elements of the morality which they are undertaking to uphold. This Decalogue and Beatitudes test will be an Ithuriel's spear, to bring into their true inward shape people who might otherwise appear suitable for the association.'"

The Pastor had been sitting by the window, gazing out over the domain in an abstracted way during the reading of the Constitution. His habitual air was that of brooding, tender, prayerful solicitude and watchfulness. Seldom can one find a person who can say as truthfully, with Wesley: "The principal business of my life is prayer." He seemed ever like Moses on the Mount, who could see plainly that when his hands were no longer lifted in prayer for Israel, then the Amalekites prevailed, and the tide of battle turned against the chosen people. Yet his prayer was not the empty mumbling of "pater and ave;" but such as Plato describes: "The ardent turning of the soul toward God, not to ask any particular good—but good itself, the universal supreme good." He seemed to feel that it specially devolved upon him to keep himself, as the chief spiritual bulwark, pumped so full of heavenly power that the "gates of hell" could not prevail against the Society—that the attacks of all devils incarnate and others would be repulsed. In a very large sense he bore the sins and sorrows of the whole community. While seemingly often simply musing, no Wall Street broker at the "morning call" of the Stock Board was more strictly "attentive to business." The great battles of the Society were being fought out in his soul, which, while apparently

calm, was in a tempest of conflicting emotions.

He now said: "Well, we found our moral test an Ithuriel's spear. How many there were who talked the glittering generalities of morality and reform, like angels, until we asked them to express a willingness to be governed by the spirit of self-denial and self-sacrifice so definitely expressed in the Decalogue and the Beatitudes. Then how plainly they showed that they needed a genuine 'regeneration,' and that the 'natural man receiveth not the things of the Spirit.'"

"But do you really consider," said Anthony, "that such a commandment as that about Sabbath-keeping is binding on us moderns?"

"I think it is a very good general rule to abstain from labor one day in seven. Among those nominally Christian nations, where the poor are ground down to the lowest pay that will support life, it has given the laborer that much relief from the oppression of the cruel taskmaster; and the religious observances of the day have been very useful. But we are as careful as was Christ himself not to fetter any one by enforced observance of the day. In short, as you have seen, our demand is only for acquiescence in the *spirit* of those laws and precepts."

"I see by Article IV., Section 1, that you have not a profound respect for the wisdom of the majority. You require a unanimous vote to admit a person to membership."

"You are right," said the Judge, "about our appreciation of majority rule. We wished to make our movement as little experimental as possible, and so made a profound study of the existing successful associations before we began. We found certain lines of agreement among them. All were communistic. All are apparently graded—having, at least, full and probationary members. A new-comer is not immediately eligible to a new position. All are under two styles of officials—religious and secular—the religious having the most power. As far as appears, a mere majority in favor of a person or measure will not insure his or its acceptance in any of the societies. They are all for 'perfect peace,' and can not brook the squabbles of majorities and minorities—will not move in any direction without apparent unanimous consent. This is a regulation of the each and every one—the Amana, Economy, Zoar, Shaker, Oneida, and even the Bracton. With such a rule in force, no one can complain of results, and say, 'I told you so.' We have imitated them in all important particulars, except Communism."

"I like Article III., Section 2," said Reynolds, looking over at his friend's copy of the Constitution. "We have an Arbitration Committee in the New York Board of Brokers, and it saves a great deal of trouble and expense."

"It is very valuable," said the Judge. "The Constitutions of all the societies mentioned that touch upon that subject demand that disputes shall be so settled."

"There must have been strong opposition in some quarters to the Self-perpetuating Council," said Anthony.

"Not so much as you would suppose. Such a number of our oldest and most experienced members had seen so many promising societies ruined by an unwise majority, that they were quite ready to attempt 'government by the best,' or at least the granting of this veto power to a council that would naturally be composed of the wisest members."

"I see," said Reynolds, "that Article VIII. speaks of a charter as not yet obtained. I think I have understood that you are now working under a charter."

"Yes, we obtained a special charter from the Legislature. You know that our private property would otherwise be liable for the debts of the Society."

"Your Constitution is full of curiosities to a Wall Street man," continued Reynolds. "For instance, the high-priced shares, of which a member can own only one. In ordinary business we make cheap shares and let a member own as many as he pleases."

"You understand, of course," said Anthony, "that this provision was intended to preserve the equality of the members, as much as possible, without actually adopting Communism."

"You will observe also," said the Judge, "that nothing is said about paying interest

on these shares. None is paid upon them. This settles the usury question, as far as shares are concerned, and also prevents the shares remaining long in the hands of any but workers; as according to Article IX., Section 2, dividends are only paid to 'shareholders in proportion to their earnings.'"

"I must say, however," broke in Reynolds, "as a level-headed business-man, that your double-back-action coupon bond, as described in Article VIII., Section 4, 'takes down' anything I have met in that line. It seems like a grand conglomeration of the Wall Street 'put-and-call, spread-and-straddle' business. I fear that you, too, have your 'heathen-Chinee ways that are dark.'"

"No, don't rail against the bonds," said the Judge, smiling benignly. "They are a pet invention of mine, though I confess they were suggested by a hint I got from Daboll's Arithmetic. Our straightforward Pastor here shook his head at them at first; but I soon convinced him that they were the most equitable bonds ever invented; and instead of having anything of Wall Street hocus-pocus, 'head-I-win-tail-you-lose' about them, or a grand compromise measure, and a stepping-stone toward no interest at all—a means for substituting truer relations between work and wealth. I do not wonder that this bond is bewildering to a man from Wall Street—that phantasmagoria built upon the delusion that 'the many were born ready saddled and bridled that the few may ride,' as Jefferson said they are not. A Wall Street man borrows one thousand dollars from another and says: 'I expect, of course, to pay you, say one hundred dollars a year, for the *use* of this money, and finally return it to you *unused!*' This is a paradox, an 'Irish bull,' that does not suit the Peacemaker Grange. When it borrows one thousand dollars of a man, it says: 'We want this money for actual use at once. If you would rather be twenty or thirty years using it, we can be mutually helpful without either losing anything. We will pay you back five per cent. of it at the end of each year, and call it interest. But mind you, until this transaction is finally settled between us, while we will pay you interest for what we have belonging to you, *you must pay us interest on what you have belonging to us.*'"

"'O I C,'" said Reynolds, with a comical look. "That is a new view; that the interest a man pays is a loan to the other party, on which interest must in turn be paid; and thus after a term of years the two find themselves square. Don't I think I see you borrowing money on Wall Street on those terms!"

"We did not wish to present any special attractions to capital. The experiment resulted just as we expected. The young and vigorous workers bought shares of stock, worked hard, and enjoyed dividends in proportion to their earnings; while those having some property, but through age or other causes unable to earn much, and outside sympathizers advanced in years, bought the bonds and became our annuitants."

"I see," said Anthony, "that you are Communistic in your care of the aged, sick, and unfortunate."

"All civilized communities pretend to be. The difference is that no one who is obliged to rely upon our guarantee fund has any sense of being in an alms-house. They are not confined to one building, nor do they take their meals separate from the rest. They are allowed to choose and shift their rooms—within the cheaper suites, of course—and restaurant checks are given to them, with which they pay for their meals like the rest. They have the use of all the public rooms. There is generally no need that their dependence should be known, even to their intimates. Very seldom have any abused this provision we make for the unfortunates. While duly grateful also, they show no sense of degradation. They feel that they have done their best; and that the privileges accorded them by their more fortunate associates are no greater than they have a right to expect from their fellow-creatures."

"You deal very kindly, certainly, with your poor," said Reynolds. "And now about the Insurance Fund. I know that some strong firms insure themselves; but it seems to me that you could hadly dare, at first, to trust to your own insurance of these great unitary buildings."

"We have not yet," replied the Judge, "given up dependence upon outside fire insurance on this main building. All the rest we insure ourselves. We have even had some large donations to the insurance fund, by friends who dislike to see us apparently throwing away so much annually to the city companies. By the way, you should see a fire drill in this building, when every able-bodied man flies to his place upon the striking of the general alarm upon the great bell. There are even signals for 'calling up the reserve' of women and large children, in a great emergency."

"I notice again," said Reynolds, who found the business aspects of the Constitution for the moment even more interesting than the blue eyes of Miss Alice, "that you have the Rochdale style of division of profits, according to earnings, which is very just; but have you found the members willing any year to forego dividends in order to enhance the aggregate value of the property?"

"Yes, this has been done in two years. It was necessary, however, for some wealthy members to make advances to the poorer ones."

"We have already become familiar with your Peacemaker paper currency, and found it very convenient," said Wall Street again; "and find it at par, not only in the Community, but all around the country, as far as Washington, Richmond, and Petersburg."

"The accursed policy of our rulers," said the Judge, with a flame of wrath in his usually placid face, "is doing more to destroy the country by pushing toward specie basis than in any other way. I could join a crusade of street-preaching against this enormity. Our private paper money would not be needed if it had not been for the McCullough policy of contraction."

"You are right," said Reynolds. "I came here full of the money-monopoly ideas of Wall Street, but I now consider specie basis 'a relic of barbarism,' and hard money only needed for occasional international exchanges."

"All the rest of your Constitution—your items about meetings, elections, sale of stock, and lease of properties—we understand," said Anthony. "Let me ask, finally, if it is not true that your Executive Committee has been replaced by the chiefs of 'series' of 'groups' in Fourierite style?"

"Yes, that was the original intention, and it works admirably; is the highest style of Democracy, and makes the interference of the Council very seldom necessary."

SAMUEL LEAVITT.

(To be continued.)

PREACHING WITH A SHOVEL.

IT was a dreary winter evening, and Laura was snuggled up in a corner of the sofa with her book in her lap, just in the middle of a most delightful story. The boys were playing in the corner, and now and then she caught a scrap of their talk. Rob was putting his locomotive together, and Fred was arranging an orphan asylum with his alphabet blocks. Twenty-seven orphans were ranged about the carpet; some of them in bed, some eating soup out of Laura's china dishes, one desperate fellow in solitary confinement behind the door, and a long row learning to read from bits of newspaper.

So, presently the orphan asylum was turned into a gymnasium, where twenty-seven little acrobats stood on their heads, walked on their hands, turned somersaults, and performed all manner of wonderful feats. Then they were all convicts in State Prison, and Rob came and preached them a sermon. This was the sermon:

"My brothren"—

"People in jail aren't *brothren*," said Laura, looking up from her book.

"Oh, yes, they are," said Rob; "brothren is just a kind of preach word and means everybody but the minister. My brothren, folks ought to be good, and not steal things, and quarrel, and get angry. When you begin to be bad, you can't tell how bad you may get to be. The minister knows of a boy that begun by wouldn't let his brother

take his skates when he didn't need 'em at all himself, and he grew up so't he set a house afire."

"Is that *true*, Robby?" asked Fred with very big eyes.

"Course not; that's a 'lustration. Sermons are true, and 'lustrations are just to make you understand 'em. Now, my brothren, you mustn't steal, or do any more bad things, 'cause you can't do it any way, and if you try to get out, they'll shoot you."

The convicts now marched back to their cells under the sofa. Rob lay upon the carpet, with his arms under his head, and said, very slowly, "When I am a man, I shall be a minister."

"I thought you were going to be an engineer," said Laura.

"Well, p'raps I shall. Cars don't run on Sunday, and I could think up my sermons all the week, and then go and preach 'em."

"Oh, you can't make sermons just thinking them up on an engine," said Laura positively; "you have to do 'em in a study with books and writing."

"I could," persisted Rob; "I shall say my sermons like Mr. Challis, and I know lots of texts."

Laura looked at papa, who was smiling at them over the top of his paper, and asked, doubtfully, "Could he, papa?"

"I suppose he could," said papa.

"But I thought ministers had to be just ministers, and not part something else."

"I know of a boy," said papa, "who preaches first-rate sermons, and he does a great many other things — goes to school, brings in wood, takes care of a horse."

"Me, papa?" asked Rob.

Papa laughed, and shook his head.

"He preaches them to the people on the street; he preached one to me to-night."

"Oh!" said Laura, and Rob sat straight up and looked at papa.

"He preaches them with a shovel."

Rob laughed heartily at this, and Laura looked more puzzled than ever. Fred came and leaned his arms on his papa's knee.

"How, papa," he asked, "how could anybody preach with a shovel?"

"I'll tell you," said papa. "All through this month of snowy weather there has been one hundred feet on Beech Street of clear, clean sidewalk. No matter how early I go down town, it is always the same—clean to the very edge of the walk. People pick their way through the slush, or wade through the drifts, or follow the narrow, crooked path the rest of the way; but when they come to this place, they stamp their feet, and stand up straight, and draw a long breath. The boy that keeps that sidewalk clean preaches with his shovel. It is a sermon on doing your work well, and not shirking; a sermon on doing things promptly without delaying; a sermon on sticking to things day after day without wearying; a sermon on doing your own part without waiting for other people to do theirs."

"Maybe a man does it," said Rob.

"No, it is a boy; I have seen him at it. I saw him one day when it was snowing very fast, and I said: 'Why do you clean your walk now? it will soon be as bad as ever.' 'Yes, sir,' said he, 'but this snow will be out of the way. I can brush it off now easily, but when it is trampled down it makes hard work.' I call that a first-rate sermon, and every one who does his work in his very best way preaches a sermon to all around him."

The bell rang, and somebody called papa away, but Rob kept thinking of the little crooked, uneven path he had made to the barn and well, and what a stingy little pile of kindlings he had split for the kitchen, and he made up his mind he would try and preach a sermon with the shovel the next day.

Laura saw that her mother had laid aside her own book to show some pictures to little Nell.

"That's what mamma is always doing," she thought, "preaching sermons about loving other people better than yourself; I guess I'll preach one about 'Do unto others,'" and Laura left her story and amused her little sister until her blue eyes were too sleepy even for smiles.

The next day Rob widened his path and shoveled it clear down to the firm ground, and then he called Fred to admire it.

"It's nice," said Fred; "I guess it's as nice as that sermon boy could make.

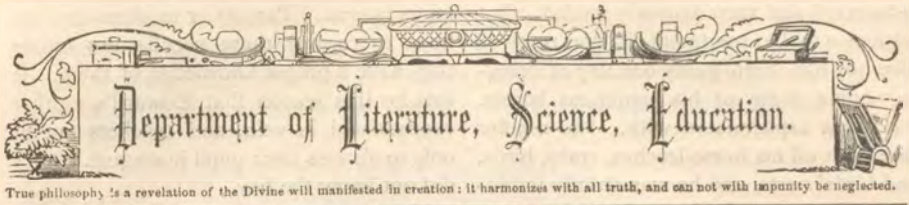
"'Spose'n we go and shovel a path for Mrs. Ranney."

"Come on," said Rob; "that'll be a sermon about—about—I wonder about what?"

"Being kind," said Fred; "but I don't know what the text for it is, unless it's 'Love one another.'"

"That's a pretty good text," said Rob; "that fits to most anything good."

EMILY HUNTINGTON MILLER.



True philosophy is a revelation of the Divine will manifested in creation: it harmonizes with all truth, and can not with impunity be neglected.

THOUGHTS ON JUVENILE EDUCATION.

SMILES' Life of Thos. Edward, the Scottish naturalist, is one of the most interesting of the many interesting biographies that have emanated from the pen of this deservedly popular writer. To the student of human nature it is in an especial manner valuable. Not only does it teach the lesson that to the man of determination and will, animated with a pure and passionate love for his calling, are most all things possible, but it further illustrates how great need there is for the promulgation of those teachings which find a capable vehicle of expression through the columns of the AMERICAN PHRENOLOGICAL JOURNAL. Edward was a born naturalist; and yet who recognized his abilities, especially at that time when there should have been given to them the greatest play of cultivation? Did his parents recognize them? No. Did his teachers observe the natural bent of their pupil's mind? No. Did any of those with whom he came in contact in his youthful days note that in this rough, uncouth lad nestled talents that should in after years mark him as one of the greatest of living naturalists? Neither parent or teacher or friend seemed to be cognizant of what to every phrenologist at least would have proven an unmistakable fact.

At a remarkably early age the innate qualities of the child's mind seem to have displayed themselves. "When only four months old he leaped from his mother's arms to catch some flies buzzing in the window." So soon as he was able to toddle around the door of his home, he anxiously began to cultivate the acquaintance of the ducks, hens, and fowls of his father's barnyard. When about four years of age the family removed to Aberdeen. The boy was happy. The scenery and natural advantages of this Scottish city were his delight. Each day he is found making his way to the Inches, there to form the friendship of any living creature that could be found. "The boy used daily to play at these places, and brought home with him his 'venomous beasts,' as the neighbors called them. At first they consisted for the most part of tadpoles, beetles, snails, frogs, sticklebacks, and small green crabs (the young of the carcinus mœnas); but as he grew older, he brought home horse-leeches, asks (newts), young rats, field mice, house mice, hedgehogs, moles, birds, and birds' nests of various kinds." At home, at school, or at work, the same passion held sway in his bosom. He had been sent to three different schools, but was dismissed from each because of his irregular habits, and more particularly on account of the "venomous beasts" he persisted in bringing with him. Despite every drawback, however, he persevered in what was to him a labor of love, until we find him eventually recognized by the leading naturalists of Britain, and elected an associate of the British Linnæan Society.

It is not our purpose, however, in the present page to trace in biographical order the many interesting incidents that have marked the character of this remarkable man. This we may do at another time. We aim simply, yet forcibly, to point out from the few facts here narrated the importance of teacher, of parent, of every one obtaining as thorough knowledge as possible of the nature and characteristics of their "own kind."

A boy of the turn of mind of Edward was not to be dealt with as one of a quiet, even, and pacific disposition. He was possessed

of special talents, which needed first to be recognized and then properly guided. But we repeat: what treatment did they receive? The boy had been guilty one day of bringing home some of his venomous beasts. "He was expostulated with. His mother threw out all his horse-leeches, crabs, birds, and birds' nests, and he was strictly forbidden to bring such things into the house again. But it was of no use. The next time that he went out to play he brought home as many of his beasts as before. He was then threatened with corporal punishment; but that very night he brought in a nest of young rats. He was then flogged, but it did him no good. The disease, if it might be so called, was so firmly rooted in him as to be entirely beyond the power of outward appliances. And so it was found in the end."

Our biographer may with force write: "the disease was firmly rooted in him." A similar disease, though perhaps a different phase of it, has its hold upon every child in our land. All have their peculiarities of temperament. Parents or teachers can not hope to control these peculiarities unless they have a proper knowledge of them. It was for this reason that Edward's mother expostulated in vain, and teachers taught only to dismiss their pupil in disgust. They did not know the boy.

The great mass of parents and of teachers still remain ignorant of the moods and whims, motives and faculties that govern the children over whom they are placed as guardians. Thousands of men are to-day holding positions in society for which they are totally unfitted, because when young, those faculties that should have received the greatest culture and care had been kept in the background through the ignorance of those whose place it was to guide them, because when young the twig was not bent as nature had inclined it. Study as we will the other sciences, surely the study of man is after all the greatest science.

J. S. ROBERTSON.

THE WAR IN EUROPE.

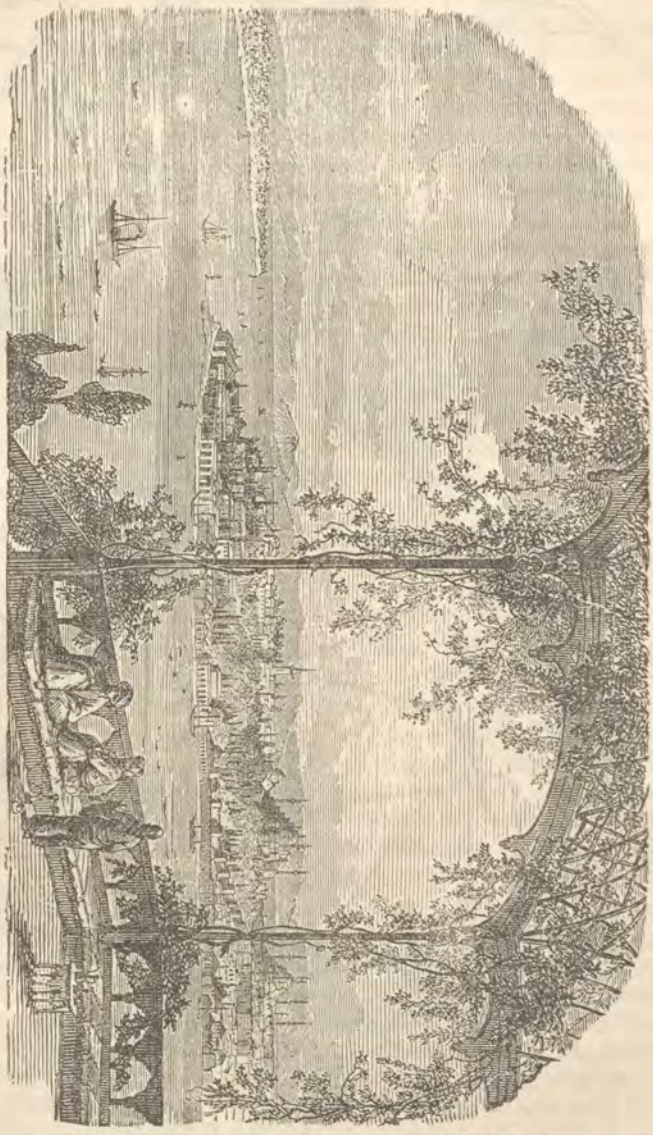
A GLIMPSE OF ITS CAUSES.

THE absorbing topic of the day is the European war. It is not merely the spectacle of the Sclave arrayed in armed might against the Turk, which is so profoundly interesting to the civilized world, but the many social and political issues comprehended in the strife. Indeed, the real cause of this war is not a matter of last year or of ten years past, but of a thousand years or more ago, when the followers of Mohammed planted his implacable standard in the soil of Europe and endeavored to subdue the nations thereof. Then and in the centuries after was the cross uplifted to cheer the Roman, the Spaniard, the Frank, the German against the usurping Arab. To be sure, in some regions the policy of these early invaders was an improving one, introducing as it did a better form of religion and morality than the heathenism which had previously existed there, as in Peloponnesus and the Caucasus. For nearly seven hundred years the Moorish wing of the Mohammedan faith had a firm place in Spain, disappearing finally in the reign of the judicious and liberal Ferdinand and Isabella. But in the region bordering on the Euxine or Black Sea the Saracen so firmly intrenched himself that for centuries the splendor of his court was the theme of poets and novelists; and it was not until 1683, when the adventurous Sulieman was repulsed at Vienna by Sobieski, that Ottoman power commenced to decline in Europe.

Mohammedanism, introduced by the sword, depended upon the sword for its propagation, and when its followers could no longer add conquest to conquest, its power began to wane.

It was in 1709 that Russian and Turk met first in bloody contest, on the northern border of the Black Sea, and the latter found himself compelled to surrender, one by one, his possessions, until the Danube, the Euxine, and the mountains of Caucasus limited their northward reach. No sympathy, of

course, could exist between two people differing so widely in racial type, religion, and political aim; and when disagreement culminated in the Crimean war, only the interference of France and England prevented Russia from gaining control of the passage to the Mediterranean.

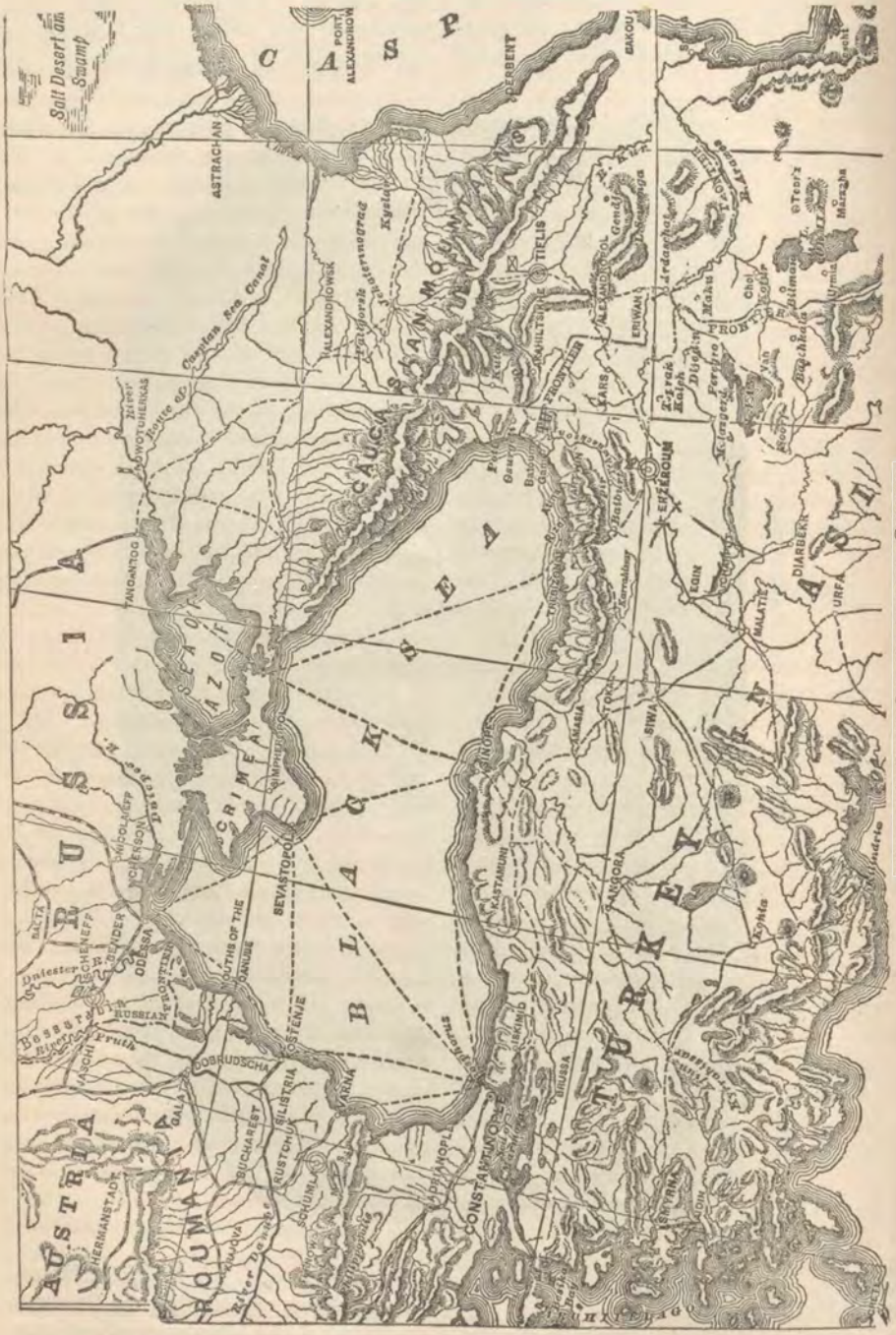


CONSTANTINOPLE AND THE GOLDEN HORN.

The present war had its beginning in the revolt of Herzegovina in 1875, which was brought about by brutal exactions and persecutions of Turkish officials in that Christian province. The revolt commenced in July, and in a few months attained such proportions that efforts were made by the representatives of foreign powers, at Constantinople, to pacify the insurgent Herzegovinians with promises that the Ottoman Government would introduce such reforms in its provincial policy as would render it tolerable. At the same time Turkey was

warned that this outbreak, if not suppressed quickly, would be likely to kindle a great

autonomy in Europe. In keeping with her course for generations, Turkey was ready



Map of the Black Sea and adjacent Country.

contest which might involve the leading European nations and destroy the Turkish

to make promises, but Herzegovina knew too well her practical disregard of promises

to Christians whenever she deemed her interests likely to be promoted by such flagitiousness, and refused to trust her again. Then the provinces of Montenegro and Servia, which adjoin Herzegovina, became actively interested in that country's struggle against Turkish misrule and oppression, being themselves tributary to the Sultan, and commenced military operations both in behalf of Herzegovina and of themselves. Next, Bulgaria, bordering on Servia and the Danube, became the scene of insurrection, and there the Turks exhibited their hatred of the Christians in the most horrible ways. The atrocities which were committed upon defenseless non-combatants by the Bashi-bazouks beggar description, and have become too well known throughout Christendom to need particular mention here. The Bulgarian horrors aroused Europe, and during the remainder of the year 1876 vigorous efforts were made by the great Powers to unite upon a basis for the settlement of the troubles. The famous Berlin Note of May, 1876, would probably have adjusted matters for a time had it not been for England, whose representative refused to accede to all the propositions submitted to Turkey; and that power feeling herself sustained by the prestige of Britain, refused to comply with them. The course of England in this affair has been characterized by Mr. Gladstone as a serious blunder. Meanwhile Servia and Montenegro kept up their armed opposition to Turkish authority, but their operations did not prove effectual, either through weakness or imperfect organization, notwithstanding that large numbers of Russians had joined the Servian standard. Servia at the close of the year had been worsted in the conflict, and Russia intervened to demand an armistice, and now Turkey found herself face to face again with her old enemy. An armistice was granted, and again the European powers sent their representatives to negotiate for the settlement of this important phase of the Eastern question. This time they convened in Constantinople. The ultimatum which was agreed upon and submitted to the Porte embraced among its provisions the conditions: that the governors of the Christian provinces should be Christians; that they should be aided by a foreign gendarmerie not exceeding four thousand men; and that the courts should be reorganized and the tax system reformed by an International Commission. This was at once and positively rejected by Turkey, and the conference dissolved without a practical result. Yet another attempt at a solution of the difficulties was the "protocol" of a few months ago, which was signed by all the great Powers, but which, like the previous overtures, was as recklessly spurned. Then followed Russia's declaration of war.

The Czar has avowed that it is not his intention to seize Constantinople and the Bosporus, but mainly to compel the stubborn Porte to concede all that the Christians in the Turkish domain require for their comfort and prosperity—*i. e.*, equal privileges with the Mohammedans; but now that the war has been fully entered upon, it is impossible to predict the turn which affairs may take. The other nations are looking on with earnest eyes, England especially betraying a feverish anxiety with regard to the possible effect of Russian successes upon her Indian possessions.

The engraving presents a part of the city of Constantinople, or Stamboul, as the "faithful" prefer to term it, with a view of the famous Golden Horn, one of the largest and finest harbors in the world. Constantinople is a large city with a population of near 1,000,000 souls.

The map accompanying our sketch furnishes in outline the geographical relation of Russia to Turkey; and the reader whose perusal of the newspapers renders him familiar with the progress of the conflict can locate the points on the east and west of the Black Sea where the Russian armies are now maneuvering, and where the forces of the Sultan are busy in their efforts to repel the advance of their enemies.

EDITOR.

RELIEF from the pain of a bee sting may be obtained by making a stiff paste of common earth from the garden and binding on the part.

SUGGESTIONS TO OCEAN TRAVELERS.

IN a recent "Letter," Dr. Prime, editor of the *Observer*, gives some counsel to those contemplating a trip to Europe. A veteran traveler himself, Dr. Prime is certainly competent to instruct those new to the business, and we have deemed it worth while to transfer to our pages some of his very practical hints, as follows:

"Your clothing will be just the same, for a tour in Europe, that you would provide for traveling in your own country. On shipboard you will be exposed to cold, and should be well provided with wraps and overcoats. You will be constantly in the midst of ladies and gentlemen, and will be dressed accordingly. Only those who take a pride in being rough and dirty, think that anything will do to wear at sea, and the more careless they are of personal appearance, the more they will seem to be above the opinions of others. It is quite as easy to be comfortable, and at the same time decent, as it is to defy the proprieties, and affect an independence that, after all, shows a want of manners, which the poet well says is a want of sense. A heavy shawl or a traveling rug may be had at little cost, and, put up with a strap, will be handy to have by night and day, on sea and land. Under-clothing should be warm, for the changes of situation, while one is traveling, are far more frequent than when one is about his daily duties at home; and, if you are well covered with flannels, you are less apt to take cold when the changes come. The soles of boots ought to be thick, and few persons understand how much more walking and standing they can endure without foot-sores and weariness, with thick than with thin soles. Light overshoes ought to be always within reach, to be used only when the weather requires them, for the feet are better cared for without than with them. But wet feet are never to be allowed, if the traveler can get into his overshoes. The india-rubber goods are now so convenient, that it is easy for those who can endure them, to go with water-proof garments, but they are not wholesome, and are to be used only to protect against the greater evil of a drenching.

"As to the clothing to be worn abroad, it is only necessary to say that you will require such as is worn in society, business, and travel at home. The manners and customs of civilized life are substantially the same in Europe and America; and in the East the habits of civilization obtain in all the circles which you will enter.

. . . . . .

"Passports are not required except in Russia, but it is very well to be provided with one, as it is sometimes convenient to be identified. They may be procured through an agency in almost every large city, or by application to the Department of State at Washington. They have gone very much out of use, and with their abolition goes one of the greatest annoyances to which travelers have been subjected. Custom-houses are a greater nuisance, and it is well to avoid being made an agent for the transport of any goods on which the Government imposes a duty. This is specially important on returning home. While the law imposes a tax on the goods you are bringing home for your own private use, as it does in many cases, let it be known just what you have, without any concealment, and take the consequences.

. . . . . .

"You will want to be well provided with money. If your journey is to be long, it is well to take 'a letter of credit' from some well-known banker here, which will be honored in London or Paris; and this letter you will present to a banker in every city you visit, and draw, from time to time, such sums as you need. If you are to be absent only a few weeks or months, it is quite as convenient to obtain circular notes before you start, and these you can use anywhere, almost as readily as bank-notes at home. So much depends on the habits and tastes of the individual, it is quite impracticable to say how much money you will need. It is very easy for a clergyman to travel extentensively over Europe, being absent six months or a year, and not spend more than five dollars a day on an average. It is easier to spend eight or ten. A young man

who wishes to see much at small cost, can get over the Continent on two or three dollars a day. One good rule is to know what you are to pay before you take a room, or a coach, or anything else. Especially is this important in all countries, not excepting our own, when you are hiring horses It is an unsolved mystery why the selling, or letting horse-flesh, is attended with a relaxation of the reins of moral rectitude. That is a mild way of putting it, but I am afraid to express the idea in that Saxon form of speech which I cultivate generally.

"Before you go abroad, put your affairs in good order, and make your will. Much of the profit and pleasure of foreign travel is lost by worry about things at home. Do as well as you can for yourself and others, and then be easy. No good comes of fretting, and, with the ocean between you and business, have faith in God and those to whom you have left your worldly cares.

"Lay in, besides clothes and money, a good stock of patience. People who can not put up with things that are not to their minds, ought never to go away from home. Let them expend all their grumbling on the unhappy inmates of their own house. To fret at the weather, the ship, the dinner, the servants; to be fault-finding in the cars and the inns and the streets, is to be miserable and disagreeable. My typical grumbler is the man who told me, in Italy, there was more Art in Illinois than in all Europe. And I repeat the advice: learn to take things as they come; put up with them any way; you will not reform the Continent on your first journey, and perhaps not in the second. But if you go to see and learn and enjoy, willing to ask and be told, and ready to be pleased with the novelty of things that are not such as you are accustomed to have, and perhaps not so good, you will find travel a delight, and will bring home stores of pleasant memories to be a life-time joy."

A JUSTICE ON THE LIQUOR BUSINESS.—It is rare—alas! so rare, that we are compelled to give it special consideration—that a minister of the law asserts in clear language the teachings of every-day experience and the precepts of Christian morality with respect to the liquor traffic.

Judge Pierce, of Philadelphia, recognizes his duty as an officer of justice, and on occasion characterizes that great blotch on civilization in appropriate terms. Not long since, viz., when the Grand Jury for the March Term of Court made their final presentment, he thus spoke of rum and its inflictions:

"To look at the fruits of the liquor traffic, at least one-half of the police force of the city are employed day and night—say 600 patrolmen at a cost of $50,000; half of the expenses of the County Prison; the House of Correction, $326,000; the expense of the Almshouse, etc., $250,000; the incidental expenses, such as proportion of pay of the police magistrates, jurors, court officers, District Attorney's office, etc., etc.; total, $1,200,000. This is a moderate estimate of what the traffic in liquor costs the city of Philadelphia in cash. Besides the direct expense to the city as a municipality, the cost to those who frequent and patronize these taverns is simply enormous. It is a moderate estimate that these 7,000 do an average business of $3,000 a year each, which gives us the enormous sum of $21,000,000; and this useless wastefulness of money is largely borne by the working-classes. Is it a wonder that when hard times come there is so much suffering among that class of our citizens whose hard earnings are thus diverted from the savings institutions to indulgences which are destructive to both health and happiness? But this deplorable traffic comes freighted to us with greater burdens than those which affect material wealth. It brings in its train the broken health and squandered fortunes of thousands; the sighs and broken hearts of mothers, wives, sisters, and children; ruined characters and desolate homes; widows and orphans, whose bitter tears are doubly bitter when they remember the causes of their desolation. Is it not a wonder, then, that as citizens having regard of our material interests, as men having a sympathy with our fellow-men, and as Christians having regard to the highest moral interests of our fellow-beings, we are so supine in our efforts to relieve us of this great evil?".

HOW TO TEACH.*

FACULTY OF COMPARISON.

THE name of this faculty seems a sufficient suggestion of its function. Its office is to compare one thing or thought with another, to detect resemblances and differences, conformity, divergence, relationship, similitude.

Dr. Gall remarks that "Tune may compare different notes, Color contrast different shades, but Comparison may compare a tint and a note, a form and a color, which the other faculties by themselves could not accomplish."

Dr. Spurzheim says: "The great aim of this faculty seems to be to form abstract ideas, generalizations, and harmony among the operations of the other faculties. Color compares colors with each other, and feels the harmony, but Comparison adapts color to the object which is represented; it will reject lively colors to represent gloomy scenes. The laws of music are particular, and Tune compares tones, but Comparison judges of music according to the situation where it is executed. It blames dancing music in a church, and it is opposed to walking with fine clothes in the dirt. It feels the relation between the inferior and the superior feelings, and gives preference to the latter. It presupposes, however, the activity of the other faculties, and can not act upon them if they are inactive."

This explains why some persons have taste and good judgment in one case and not in another. Mr. Combe quotes Mr. Scott as saying: "This faculty compares things of the most opposite kind, draws analogies, and discovers resemblances between them that are most unexpected and surprising. It compares a light seen afar off on a dark night to 'a good deed shining in a naughty world;' it compares the kingdom of heaven with a grain of mustard-seed. The kind of resemblances which this faculty discovers are, perhaps, in no case *direct* resemblances, such as are produced by the observing powers, but *relative* resemblances; or to speak more accurately, not relations between the objects themselves, but between their relations to other objects."

Those who are often using metaphors, parables, fables, and analogies will be found to have the organ in question largely developed. It is situated in the upper and middle part of the forehead, and when it is large, it gives a sharp and wedge-like appearance to that part of the head, and length from the opening of the ear to the location of the organ. It gives to the speaker or conversationist a tendency to think pictorially and to speak picturesquely. It leads one to make free use of symbols, and to draw illustrations from the whole natural and moral world. These comparisons are sometimes very quaint. Mirthfulness may have its hand in the work. The caricaturist is greatly aided by this faculty in making resemblance enough between the picture and the original so that everybody shall know it, and difference enough so that every one shall laugh at it.

Order and Comparison work together. It is the order of nature that certain fruits should grow on trees, and certain other things in the ground. When one sees a chestnut, if he has ever seen chestnuts grow in nature, he will instantly infer that the chestnut before him grew on a tree similar to that which

* From "How to Teach, according to Temperament and Mental Development; or, Phrenology in the School room and the Family." By Nelson Sizer. S. R. Wells & Co., New York, Publishers. Price, by mail, $1.50.

bore the chestnuts that he has seen growing. He would say the same of a grain of wheat or an ear of corn. Individuality, Form, Size, and Color would recognize the peculiarity of a given scale of a fish, and Comparison would enable one to know to what fish the scale belonged. Professor Agassiz, being shown a fossil scale of a fish, drew the fish and put that particular scale where he inferred it must have belonged, and published the drawing. A year or two afterwards a complete fossil fish of the same species was found, and by comparing the drawing and the complete fossil, it was found that in form, size, and in all the characteristics the critical professor had scarcely varied a line from the reality.

Men who have this faculty strongly developed are critics. They make nice distinctions; they argue sharply; they compare one thing with another, introduce metaphors and similes, and thus bring the subject vividly to the comprehension of the hearer. That wonderful parable of the sower, in which the kingdom of Heaven is likened unto one who went forth to sow, is a happy illustration of comparison. Some of the seed fell on good ground and brought forth fruit. Some fell on stony ground; some by the wayside, and some among thorns and briers. The explanation of this parable makes the subject exceedingly interesting and very appropriate, and the faculty in question recognizes it.

Analogical reasoning comes from the faculty of Comparison, while that which is called abstract and philosophical is supposed to come from, or originate in, the faculty of Causality.

CAUSALITY

THE BASIS OF THE REASONING POWER.

This faculty is located in the upper part of the forehead, outward from Comparison, and when large, it gives a peculiar squareness to that part of the forehead. Its name would seem to imply that it has to do with causes, seeks for causes, and appreciates them. When it meets with an effect it reaches backward to know the cause, or onward to calculate the effect or result. If a person in whom Causality is large, be placed in unusual circumstances, he instantly casts about to see what he shall do, and will invent methods of retrieving himself. Causality invents plans, looks forward, anticipates the future, studies the philosophy of facts, and the relation of causes to effects.

Superior inventors generally have Causality large, and they will sit with their eyes shut and dream out wonderful results, but they may require a person with large perceptive organs and Constructiveness to reduce the theory or idea to practice. Causality comprehends the principle, and Constructiveness helps to work it out. Causality plans the means for making the tools for new uses, where none were existing; in short, Causality grades the road and lays the track, while the other faculties run the train.

Among writers, the possession or deficiency of Causality will be marked in their productions. A man with Individuality, Eventuality, Language, and Comparison, might be brilliant in narrative, but would be barren in the domain of causes and philosophy. Another will be dry, sound, theoretical, and give the germinal thoughts, which are like seed-corn more than like the harvest. We have known some phrenologists with large Causality and moderate perceptives, who were very dry in their lectures and examinations, but they were sound in their conclusions. If we may say it, there was no marrow under their tongues.

There are teachers who, with large reflective organs, brood over a subject and comprehend its length and breadth, but they can not utter it in such a way as to make it available to those of a different cast of mind. Their method of instruction to those who are not sharp in abstract studies, but strong in perception, is very much like feeding whole corn to little chickens. The material which composes the corn is just what they need, but it must be ground before they can get it down. Those who have the same philosophic cast of mind can understand abstract subjects; they are like the full-grown fowl, able to swallow the whole corn. But the teacher, or the preacher, who would instruct a congregation, the old and the young, the cultured and uneducated, the theoretical and practical, must learn to reduce his philosophic depth of thought to familiar forms of statement; in short, must learn to grind his corn, and then it will be food alike for young and old.

This faculty is supposed to give one the idea of the existence of God, on the principle that everything must have a cause; but another faculty gives the emotion of reverence, and though we can not look around us and see anything which is our superior, we have a yearning sense of something above us, and the faculty of Causality seeks to appreciate the cause of light and wisdom as being one of creative and controlling power. Causality comprehends the adaptation between a powerful and intelligent cause and the results which the other faculties appreciate. Causality concludes that a Creator "must exist, and must possess the attributes which are evidently manifested in His works; and since all these attributes merit our respect and admiration, therefore He is the most legitimate object of our veneration and worship." But he must have Veneration to give that direction to his reasoning powers.

The teacher who has this organ large, or even fairly developed, will have abundant occasion to exercise it in the explaining of causes and reasons respecting the lessons under consideration. Parents find out that their children want to know who made this or that, what was the cause of this, and why it is so; in fact, many persons are driven to the wall by the intense questioning of their children, showing that Causality is active in them, and that it demands reasons and explanations. So far as explanations can be made, children in the family and pupils in the school have a right to receive them, and we pity the teacher or the parent who is not able to answer most of the questions which are awakened in the minds of the pupils.

Those in whom this faculty is strong will learn to remember things by the principles involved. They may not have remembered the facts, the details, the particulars, but the logic, the philosophy to which they point. It is like remembering a rule in arithmetic, but not all the problems that come under it. He who can hold the rule in the mind can work the problems; and other knowledge is held also in this abstract state. It is like leaven, which is capable of permeating the mass and reproducing itself forever.

NATURAL LEADERS.

When this organ is large, in connection with those of the other intellectual faculties, we have those prominent individuals who live in advance of their day, and who impress their greatness upon the coming generations. Not one man in fifty is remembered fifty years after he is dead; not one man in five hundred will be remembered a hundred years after he dies; but a few live in

that realm of high mentality which enables them to become leaders of thought and benefactors of the race, and their memory becomes more fresh and vivid as the recurring generations advance in wisdom and knowledge; and although, perhaps, we may count on our fingers the names of those who stand forth in the domain of scholarship and philosophy, who have been dead a thousand years, yet the appreciation and reverence of mankind for those "immortal names that were not born to die" shall become more intense and profound as the ages roll on.

Those who have to do with mere facts and things and never step out of the beaten path, or rise above the level of the common average, do nothing which gives them a claim upon the remembrance and reverence of posterity, because they live in the realm of mere things that perish with the using. Mind is immortal; morals are imperishable; philosophy sits serene above the strifes and tumults of the world; and when men are moved by enduring principles applicable alike to all generations, mankind will not willingly, and could not if they would, permit their names to perish.

HUMAN NATURE.

Above the organ of Comparison, on each side of the center line of the head, is the location of an organ whose faculty seems to have a mid-way position between Intelligence and Sentiment. It joins to Benevolence on the rear, and Comparison on the front. Formerly it was considered as belonging to Comparison, and sometimes to Benevolence, or as being divided between them. We recognize it as giving a knowledge of character, and an intuitive sense of what men are.

Those in whom the organ is well-developed, and it is often more marked in women than in men, seem to read the stranger at a glance, and understand intuitively who are good and who are not, who may be trusted, who should be distrusted. It is a kind of criticism which seems to be related to Comparison, and it also gives a sympathetic quality, or tendency, as if it belonged to Benevolence or worked with it; hence we say it seems to be the connecting link between Sentiment and Intellection.

It gives another quality than that of knowing abstractly what people are, namely, it seems to tell the adaptation, or the want of it, between us and others. Perhaps abstract knowledge of character would be sufficient to enable a person to appreciate whether there would be harmony between himself and the person he appreciates. The old Indian, who said he was glad that all men did not think alike, because if they did they would all want his squaw, expressed the feeling of preference which a person has for one who seems to be adapted to be his best friend. It is not all good people who are adapted to enjoy the society of each other, or to be proper companions or business partners.

QUEER PARTNERSHIPS WELL-ADAPTED.

This faculty helps me to appreciate those who are harmonious with me, or with whom I may blend and co-operate; those who may serve me in some respects, and whom I may serve in other respects, so that a companionship or partnership may be desirable and profitable to both. Men often relate themselves to each other apparently by accident. They are as unlike as they well can be, yet they seem to coalesce, each supplements the other's strength and weakness, and thus they are adapt-

ed to be partners. We remember one instance. A gentleman of New York came into our office for an examination. I wrote out his character in full, by dictating it to a short-hand reporter, and told him that he had so great a development of Cautiousness, and so much of the tendency to be philosophical, and was further endowed with the Motive and Mental temperaments—having a dark complexion and a large head—that he would be known as a planner and a thinker, and more especially as an exceedingly cautious, wary, careful, cool, forelooking man in business, and that he ought to relate himself in business with a man of light hair, florid complexion, retreating forehead, with a broad base of brain in the region of Destructiveness and Combativeness, and with moderate Cautiousness; in short, one of the real wide-awake, go-ahead, energetic men; a man who would need the influence of all his watchful prudence, all his sagacious power of thought, and could wisely appropriate it and put it into practical use. In the afternoon of the same day a man came in asking also for a written description of character. He really had just the qualities of a man we had described as a partner for the thoughtful, philosophic, cautious man in the morning; and we remarked to him, that he ought to have one of the prudent, careful, dark-complexioned, square-headed men as a partner, who could plan, think, reason, lay out work, look ahead, and who would act as a kind of brake on his enthusiasm, regulating his course without stopping it. Then we added, that we had had that very day a man under our hands who would make just the right kind of a partner for him, and turning to our memorandum book, we gave him the name and address of the gentleman in question. When the examination was concluded, he informed us that he was the partner of that man, and that the statement as to the kind of partner Mr. A. should have, had induced him to ask his partner, Mr. B., to come in and see what we would say of him. They work together harmoniously, though very unlike, each supplementing, or being the fit complement of the other, and the two together cover the whole ground.

HARMONY BETTER THAN UNISON.

The faculty of Human Nature, then, may enable a man to find in others, not perfection, but that which is needed; it may enable lemon-juice to find sugar, and *vice versa*. Men endowed with this faculty succeed better than others in the various walks of life. A man who is traveling to do business with merchants, if he be well-endowed generally and has large Human Nature, will read a man in walking five yards, and know whether to treat him with respect and distant courtesy, or whether to walk up and offer the hand cordially and familiarly, and he will address a dozen men in as many different ways in a given day, and if he could have a companion to watch his methods, that friend would get confused, and would wonder why he became "all things to all men," why he was grave, gay; lively, sober; deferential, familiar; free and easy, or reticent, "everything by turns and nothing long," changing his manner to adapt it to the nature and character of each one he meets. Our answer is, that his knowledge of human character enables him to read his men, and further, to adapt himself to each man's peculiar nature and disposition. A man who is in bank or store, or in a hotel or steamboat, or who is a conductor on a railway, and especially a teacher or lawyer, should be well-endowed with this faculty, and

if he have also a good knowledge of the whole subject of Phrenology he will be able to comprehend men and make himself successful in whatever course of action reason and duty may require.

AGREEABLENESS.

Outward from the faculty of Human Nature, and just above Causality, is located the organ of Agreeableness, or as it has sometimes been called, Suavitiveness; and it is useful in aiding people to become mellow in their manners, leading them to seek words which are gentle, soothing, and kindly. Perhaps there is no nation which possesses this faculty, by nature, more strongly than the Irish, and they give it, with its manifestations, the title of "blarney," and certain it is, that the roughest of them will sometimes express himself in a manner at once delicate, gentle, persuasive, soothing, smooth, in short, agreeable. They seem to know which way the grain runs, and act accordingly. There is nothing deceptive, hypocritical, or wrong in its normal activity. A man who does not possess it will ask: "How long is it since we last met?" A man in whom it is large, will be likely to say: "When did I have the *pleasure* of seeing you last?" And that is a modest way, if it be true, of assuring a person that his society and presence give pleasure. Some persons have a great deal more of this element than others, and it is shown in a thousand kindly ways where no word is spoken, and it is also shown in expression of face. Most of our readers will be likely to recall some person, neither learned, talented, wise, nor handsome, but who would make them feel easy and comfortable in his presence. On the other hand, some have worth, integrity, talent, wisdom, and skill, yet their presence is a bore to us; while one who is worthless in almost every respect, will not seem to be in the way, but we are, on the whole, glad to have him come.

One well endowed with this faculty not only makes himself acceptable and agreeable to others in his action toward them, but he has the power to take smoothly the rude jostlings and assaults of life. If one carelessly runs against him, or steps on his toes, he blandly begs pardon, as it were, for being in the way; and this brings an apology, a kindly recognition, and perhaps friendship for life. Whereas justice and spirit might have uttered a sharp response, ruffled the temper of both, and awakened a mutual and life-long dislike.

This faculty should be cultivated at home and at school. For it serves as a lubricator among people, rendering the hard attritions of life tolerable. When Lord Wellington, the man of iron resolution, was on his dying bed, his blandness and politeness, which had become such a fixed fact in his strong nature, did not fail to show itself. A servant asked him if he would have a cup of tea, which it was his duty to give him, the duke replied: "Yes, if you please," and these were his last words. Lord Chesterfield, the most accomplished gentleman of his time, was taking tea with two elderly ladies who seldom went into society, and who feared their manners would fall below the standard. They poured their tea into the saucer and drank from it, which Lord Chesterfield with kindly address repeated, lest the more approved method should act as a mortifying rebuke to his venerable hostesses. A smooth and kindly manner sets everybody devising means to make one happy, and though one neither give service nor things of value, an obliging, gentle spirit opens to him every door, every purse, and every heart.

PHRENOLOGY AND LOW FOREHEADS.

THE idea that a high forehead is indispensable to intelligence is an old phrenological notion, but one which is rapidly going out of vogue. There is a lady in Washington who became so thoroughly imbued with this pretentious phrenological idea that she shaved her head to give it an intellectual appearance. But when it is considered that a great exposure of forehead gives a bold and masculine appearance, and that from *frons* (forehead) comes the word "effrontery," it can readily be seen why the ancient poets and artists always gave their heroines a low forehead, which they considered a charming thing in woman. Horace praises Lycros for her *tenuis frons*, and Shakespeare commends the same in the fair Portia. In man a high forehead was, according to Phrenology, a strong indication of intelligence. But this is also a great mistake. Some of our most gifted men have had very low foreheads. Among our statesmen, Calhoun and Jackson had remakably low foreheads, as also did John Randolph. Lowell, the poet, has a forehead not over two inches high, but no one will question his great ability and splendid talents. Most of the ablest men in Congress at the present time have but moderate foreheads, while many of them have very low ones. W. D. Kelley, of Pennsylvania, who is an acknowledged logician, and one of the finest debaters, has a forehead which can be covered by two fifty-cent currency notes. We might single out many others, but these will serve as sufficient examples to establish the fact that low foreheads are not to be sneezed at and looked upon as an indication that the possessor is anything but a brilliant and an able man. We can never tell by the looks of the frog how far the animal can leap.

Mr. Editor: The above paragraph on "Phrenology and low foreheads" is from one of the leading newspapers of Washington, viz., the *National Republican*. I send it to you for the reason that it is a fair representation of the ideas that many people appear to entertain on this subject. Some who hold to the truths of Phrenology may be surrounded by a circle of friends who are kindly disposed toward that which they are so deeply interested in and regard as a great truth. I have never been thus fortunate. On the contrary, it has been my lot to fall in with those who oppose the teachings of Gall and Spurzheim, and who, as they claim, on the basis of the highest scientific knowledge, regard it as unworthy the attention, much less respect, of intelligent persons. In this matter I may be an exception. "It does seem queer," I recently heard a man remark, "to earnestly believe in something which to your highest and truest sense appears worthy and important, and to have the world around you regard it as the most foolish of all things, and yourself as wanting in good sense for having much faith in it." Yes, it does seem queer that a man's best and honest judgment should be thus regarded; yet in such cases, if a man really has faith in himself, I see no better way for him to do than to hold thereto and to appeal to the future judgment of the world. Let both sides put their belief and the reason therefor in plain black and white, so that there can be no denial or after qualifications when it is seen that the subject, whatever it may be, is gaining ground among the influential classes. Let the handwriting plainly set forth the essential points on each side. Let this stand be recorded before the world, and let Time, the great iconoclast of errors and diffuser of knowledge, in his own peculiar way, and with his own impartiality, decide the question at issue.

The opening sentence of the paragraph quoted, that "the idea that a high forehead is indispensable to intelligence, is an old phrenological notion, but one which is rapidly going out of vogue," plainly indicates the writer's opinion of Phrenology, an opinion which I think the phrenologists of the world will readily perceive to be founded upon too slight a knowledge of that which he undertakes to condemn. Phrenology does not teach that a "high forehead is indispensable to intelligence" any more than Mechanics teach that the largest column is the strongest, or that the longest ship will sail the fastest. Phrenology says, "other things being equal, size is the measurement of power." This is quite different from saying that the largest is the strongest, most powerful, or fleetest. "*Other things being equal*," we know that the length of a vessel gives speed, and that size in a column indi-

cates the superior strength. But when the "other things" are not equal, when the longest ship has the poorest model and least power, or the largest column is made of some weak material, it would be foolish to claim superior fleetness or strength simply on account of size.

It would be great foolishness, indeed, to believe the crude notions of Phrenology which so many people in the world have. When one believes in a thing, he does so on the strength of his full knowledge of it, and not on the half knowledge of some one else. For years, although the first phrenologists have been trying to eradicate the prevalent wrong impressions, yet the world is slow to learn. When any one condemns another, on the basis of a wrong idea, for which he himself is alone responsible, the fault is certainly on his side, and not on the side of him he condemns. Phrenology, without doubt, will stand the test of the future. In good time the world will learn more of this valuable science, and then it will fully appreciate this, one of its great maxims, that, "*other things* being equal, size is indicative of power." I. P. N.

[If our contributor will permit, we will add a word or two in continuation of his very pertinent remarks. We are not quite satisfied with the newspaper man's statement with regard to certain of the eminent men whom he has mentioned, because it is not confirmed by any of the authorities to which we have access. In Gaskell's "National Portrait Gallery," Vol. I., the steel portrait of General Jackson represents him with a prominent brow, whose height, considered in relation to the entire length of the face, is very near the normal one-third. Jackson had a face of unusual length, and his hair grew down in the center of the forehead more than an inch below the sides. So a person viewing him directly in front, and without care, would have said that his forehead was low. General Jackson's head was long and unusually high, and having abundant hair, in the disposition of which he did not evince a fastidious taste, not as much of the bare forehead was shown as would have been had he been in the habit of brushing his hair well back.

Referring again to Gaskell, we find his portrait of Calhoun to show a very broad forehead, on which the hair grew low, its lowness being exaggerated in appearance by the square breadth of the observing and reflective regions. In the *American Monthly Magazine* for April, 1838, an article published by Dr. Lovell, then Surgeon-General of the U. S. Army, contains many interesting data respecting the heads of eminent Americans, among them John C. Calhoun, whose head is represented as bearing the following calliper measurements: "From the root of the nose to the occipital spine eight inches; from the occipital spine to the opening of the ear four and two-tenths inches; from opening of the ear to root of nose five inches; from the ear opening to crown six inches; greatest width of head at base six inches; greatest width in the upper part (from center to center of Cautiousness) six inches also. These measurements indicate a large head, its fullness predominating in the region anterior to the ears. Of John Randolph it can be said that his long, prominent, and somewhat conical forehead, with the abundant hair clustering low upon it, somewhat after the manner of General Jackson, did not impress the observer with the idea of massiveness. But there was more brain in Randolph's cranium than its circumference indicated, because it ran up very high in the crown, and was full in the upper side-head, the organs which contribute to ambition, imagination, taste, self-reliance, and decision, being very influential. Besides this, his temperament was intensely nervous, inspiring every fiber with marvelous activity and earnestness.

As for the cases of Mr. Lowell and Mr. Kelley, we are willing to leave them to the judgment of those who know them. If it take two fifty-cent currency notes to cover the latter's forehead, it certainly can not be small, as the reader will perceive if he will try that mode of measurement. Furthermore, we would only offer the perhaps unnecessary reflection, that the size of the forehead being dependent upon development of brain, is not always indicated by the way the hair grows.—ED. P. J.]

OLD UNCLE TAR.

HE was a man of a thousand in character and appearance; with a head for a phrenologist to luxuriate on and laugh over; its faculty-boundaries so accurately mapped out—none of your smooth, round craniums, but ridgy as an alligator's back. Benevolence looked as if it began to swell up very high, but had been repressed by Acquisitiveness, which jutted prominently into view, like a rock of Gibraltar, above the ears. Cautiousness, Concentrativeness, and Executiveness, too, showed themselves; and in the back-head some sociability, while the little sacks under the eye indicated considerable gift of the gab. In truth, Uncle Tar was a right famous hand at a yarn, and enjoyed hearing *big* tales as well as telling them—meaning by "big tales" stories marvelous or surprising; yet the old man, grasping and close-fisted though he was, was truth itself in his statements, and absolutely *honest* in his dealings. He was also remarkable for his industry, making not only a living, but a snug little fortune on as poor a sandhill farm as ever sprouted wire-grass or bred craw-fish. But nobody could ever persuade him that there was any better country. Once while talking to him about the great West, he said: "Don't tell me, I knows all about them Western countries. I traveled out there twenty-five years ago, and went clean to Louisiany. You see I let my darter have a couple of niggers to carry out with her when she moved thar. I didn't give 'em to her, though, and after her old man got sorter started, I writ for him to send 'em home, but he didn't pay no 'tention, so I went arter 'em myself, but la sakes! sech a time I had, you never seed the like. Four times I went to the head of the railroad to git on the kars, and every time I backed out; the lokermotive yelled so and things looked so ginerally scary I thought I'd surely git tore all to pieces. The last time I went, the kars started 'fore I could git off, and I jest had to hold on with all my might. When I got sorter used to it, I got up to git some water, seein' everybody else movin' about, like as if they didn't mind; jest as I was swallerin' it the thing give a lurch that knocked me off my hind sights. As soon as I ketched my breath, 'La sakes!' says I, 'Mr. Conductor, what made your machine cavort so?' 'Cow on the track,' says he. 'Bless my soul, you didn't kill the critter? Whose cow was it, Mr. Conductor?' 'You must be a fool,' says he. 'Wal no, my nabors thinks I'll do to tie to.' He turned 'round and gin me sich a look that I dried up quick. We reached Augusty 'bout night; and such a turmile and conflumeration I never seed—a perfect cram of a crowd, 'busses and kerridges, and men a shriekin' 'Pavilion Hotel, Columbian Hotel, Augusty House, only two dollars and a half. Let me take your baggage.' Two or three ketched hold to my karpetbag at onct, and I raly thought I'd lose it any way. When I got to the end of the railroads I mounted on top of a stage; and at last I cum whar thar wasn't nothin' but one tavern; and it was a shanty with a dirt floor; and the man what kept it he staid in thar and his wife and ten chiller, a hog and two dogs. I tell you what, the fleas was awful in that place. They put me to sleep with a man what had just come from the gold diggins, the dirtiest, raggedest, hairiest mortal ever I laid eyes on. Nobody needn't tell me nothin' 'bout them countries whar they dig gold outer the groun', for I don't believe a word on it. Why, that man was clothed wuss than a nigger. Next day I tried to git the tavern-keeper to fix some way to git me along, but he axed me a dollar a mile, and I jist made up my mind to foot it. When I 'rived at the Mississippy river I got on the allfiredest big boat ever I seed, and when we had traveled one day we got on a snag, and sech a time as we had gittin' off was 'a sin to Davy Crockett.' We staid thar four days. The water in them countries was powerful bad, and the skeeters swarmed like yaller-jackets 'round a cider barrel. I got so onpatient I couldn't stand it no longer, and I quit the boat and hired a man to take me in his ox kart 'cross the country. We traveled on mighty slow two or three days. We camped out of nights, and one morning when I riz I didn't see my

driver. Thar was the kart and the oxen, but he wa'n't nowhar. After awhile I thought of my money, two hundred and seventy-five dollars and ten cents. Bless your eyes! 'twas gone, every red cent, clean as a whistle! That miser'ble man had stole my pile. In that extremity I recollected what a honest face I had, sorter like Abe Lincoln's, you know; so I hitched in my oxen and driv on, and bime by I cum to a place called Providence, and thar was a man thar what kep' a telegraph. I splained to him what a fix I was in, and how I wanted thirty dollars to take me on to my darter's, and says I: 'Smith, jest look in my face and see if I aint a honest man,' and he did it, sir, and trusted me, and I brags about it to this day. I tuck the railroad thar—"

"But what did you do with your ox-cart?"

"Why, I let Smith keep it and the oxen."

"Oho! he had something tangible to base his confidence on, then."

"Uncle Tar, I see you have some very fine colts, what would you take for them?"

"I wouldn't take nothin' for them colts; they was gin to me by Andy Johnson, President of these Yewnited States—they were."

"How come so?"

"Well, you see, when the Yunion army passed through here they was stoled from me by a man named Jock Roberson. He was one of them low, pervilious white trash what followed close behind the army, and done lots of burning and stealing, and then charged it to the Yunion men. Well, I found out where they was 'bout three months after Sherman had been through. I went to him and says to his face: 'Jock, them's my colts, you know as well as I do! Will you give 'em up without a fuss?' 'No, by Jings,' says he. I had heerd that Andy Johnson was a straightening up things powerful, so I jest writ to him, and"—said the old fellow, drawing a piece of dirty paper out of his pocket—"here's a copy of the dockyment, *vice versy*." This was the one scrap of Latin Uncle Tar knew, and he garnished his conversation with it promiscuously. The "dockyment," *verbatim et literatim*, was as follows:

"To the President of the Yewnited States, what lives to Washin'ton, Andy Johnson by name—Dear Sir: I writes to let you know I'm well at this present writin', though I was ailin' awhile back on account of eatin' so many collards without salt. Your soldiers lef' me nun, so I had to do without; which also is to say I'm a honest man, and here's the names of some of my nabors, which will tell you so, which is: Jim White x, John Brown xx, Bill Smith, and Sam Jones. Jim and John can't write, so you may know the marks is theirn. Thar's a man what lives five miles from here which is got my colts, and won't let me have um; he took um when your Yunion soldiers come through here. I'd be much obleeged ef you'd jest write and order him to give 'em up. Wun thing what makes me want to git um back so bad is cause I'll make good critters outer 'em; and they'll never git their growth with that man's feedin'."

"Well, Andy," added the old man, "he jest writ to his Buro, and he jest went to Jock's and got my colts fur me. Hurrah, says old Tar, fur Andy Johnson. He was the greatest man in these 'Merican Yunions."

VIRGINIA DU RANT COVINGTON.

CONSCIENTIOUS.—The official who reported on specimens of tobacco exhibited at the last Paris Exposition, after presenting his estimates of the aggregate annual production of the weed, remarked:

"The enormous figures which have passed before the reader's eye testify to the facility with which people fall into excessive expense for the gratification of a pleasure which has for its principal aim to kill time and to stupefy the mind."

FOWL-KEEPING IN FRANCE is declared to yield an annual return of more than four billion francs, or about seventy-five thousand dollars.

So says the *Semi-Tropical*, whose financial editor has evidently made a mistake in his calculation. There are about five francs to the currency dollar, which would make the amount in round numbers $800,000,000. We think, however, that one-tenth of it, or four hundred millions, about $80,000,000, would be nearer right.



It is only by training all together—the physical, intellectual, and spiritual elements—that the complete man can be formed.

SPECTACLES--HOW TO SELECT AND WEAR THEM.

WHEN, some years ago, a Chinaman visited Europe for the first time, he was asked in London, what he considered most strange? "First," said he, "your city; the houses are as crowded as the scales on the back of a fish. Next, the men, because they imitate in their upper garment the tail of an animal, and in their head-covering the mortar of the druggist; and next, those who wear spectacles, when they neither read nor write.'

The Chinaman wears his spectacles only when he needs them for actual service; but in our civilization, spectacles are the companion of a large part of the population at all times. Yet, notwithstanding this inseparableness, but very few of those who wear spectacles are able to make a proper selection of them. The mechanic or artisan is capable of choosing his tools by certain marks, but the student or literary man seldom understands how to select the to him so much needed instrument—the spectacles. He is left to chance, and the persuasion of the vender, who usually terms himself an "optician," in order to make people believe that he understands the selection and use of spectacles when, in reality, he is but a seller of them, and not a manufacturer. If anybody should select his clothing in a store, where all the garments were made after the same pattern, having no regard to fitness or harmony, he would certainly be laughed at, and yet every man who takes the first pair of spectacles in a store, which is offered as "about his size," and every woman who selects her opera-glass or *binocle* by its external ornaments, acts not less ridicuously.



A

A PERFECT FIT.



B

ALL ASKEW.

The breadth of the eyes, *i. e.*, the distance of the pupils from each other, varies in accordance with the breadth of the face,

and whoever wishes to spare his eyes in the use of the spectacles, must take care to look only through the very center of the eye-glass, because the center is generally the most nearly perfect and the best polished part. As glasses are bought, it is only by



C

Too Wide for the Eyes.

chance that anybody finds a pair of spectacles which fit as shown in Fig. A; for a youth the same spectacles would be too wide, as shown in Fig. C; but the most tiring for the eyes is a pair of spectacles which, although perfectly fitting with regard to the breadth, nevertheless sit aslant, as shown in Fig. B, because the upper edge of the frame crosses one pupil of the eye and the lower edge crosses the other.

In the selection of spectacles or opera-glasses the size of the frame should be proportioned to the eyes, and fit as in A. Usually, every so-called "optician" or vender, has an instrument with a loop-hole in it through which the purchaser has to look at a printed sheet of paper or a newspaper, which is attached to a rod so that it can be moved toward or from the eye, and according to the indications of this the vender chooses the number of the glass.

The frame usually governs the price, but in this respect no regard is given to the size of the head. Even a fitting pair of glasses will only be a relief when supported before the eye in a frame which is firm, not wavering so that the wearer always looks through the centers, and the glasses are large enough to enable him to look through without noticing the frame as a dark inclosure around his visual field. The old-fashioned round glasses are preferable to the oval-shaped ones, although the latter, on account of their more pleasing or neater form, are in almost universal use.

In order to measure the breadth of the eyes, or the distance of the pupils from each other, lay two small sheets of paper, say six inches square, one upon the other, and fold over the two longer sides about one inch and perfectly parallel, so that the inner sheet can be easily moved to and fro. Now draw the two sheets out until there is a lap of about one and a half inches, then make with a pin a hole in each sheet, so that each hole will be about half an inch from the edge. (See Fig. 1). Now put the paper before the eyes so that each eye looks through a hole. Then step up to the window and look at a distant object—a tree, a chimney, or a lightning rod, an object sufficiently prominent not to be mistaken for any other. As long as you see two circles, the object in view will appear, but double; but by pushing the

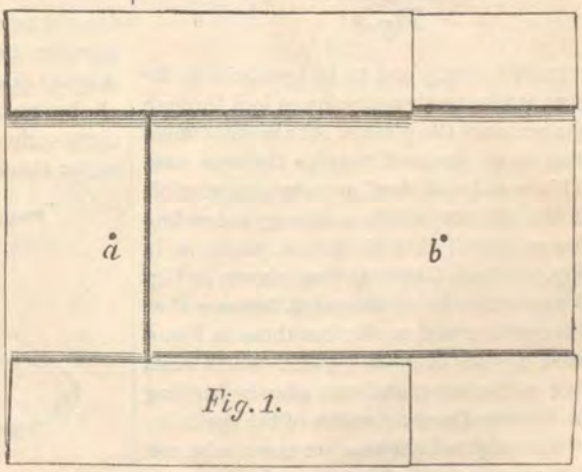


Fig. 1.

Paper Folded to Measure Width of Eyes.

folded papers gradually closer, the two circular fields will at last seemingly cover each other and form only one, as in Figs. 2 and 3. Now lay the paper carefully on the table and measure the width between the two holes in the two papers and you have the width between your eyes. This measure is necessary for the selection of the frame of the spectacles. Lay the frame on the paper on which the exact width of the eyes is marked, and see that the marks come just exactly in the center of the holes in the frames, as shown in Fig. 4. In regard to the shape of the frame, the one shown in Fig. 5 is most recommendable because the bow or middle-piece *a* is equally bent on each side, and the two bars *bb* have no joint, as in Fig. 6; such spectacles can be used either way, and can be taken up and down with one hand. In order to have the rays

Fig. 2.

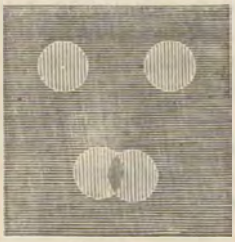


Fig. 3.

refracted equally and to be beneficial to the eyes, it is not only necessary to look through the center of the glasses, but the same must also stand perpendicular to the eye axis. This may be attained as nearly as possible if the glasses are in a strong unbending frame, and if they lie in one plane, as in Fig. 7. Such frames as that shown in Fig. 8 are not to be commended, because they have no firmness at all; but those in Fig. 9 have a bow or middle-piece, which rests fast on the nose, and may also by bending be fitted to the exact width of the eyes.

Near-sighted persons are those who can distinguish small objects, as, for instance, printed letters, only when they are within twelve inches of the eye; whereas, the far-sighted can only read by a distance of 15, 20, and even 30 inches. The greatest proximity in which the eye can read or distinguish the particulars of an object is called the *point of proximity;* the greatest distance, on the other hand, beyond which the printed sheet can not be removed, is called the *point of distance*. In near-sighted per-

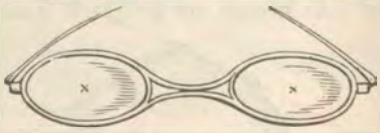


Fig. 4.

sons the point of distance lies too near the eye; and in far-sighted persons the point of proximity is too far off. Characteristic of the near-sighted is the narrowness of space wherein the eye can distinctly see, it measures in a high degree of near-sightedness perhaps only *one* inch; such persons

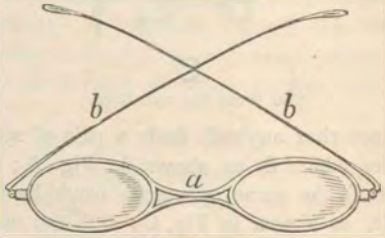


Fig. 5.

can not read over three or under two inches from the eye. Objects lying outside of the point of distance can either not be seen at all by near-sighted persons or they see them without distinct limits, as if in a fog; in the same way the far-sighted see objects



Fig. 6.

which are brought within their point of proximity. The defects of near and far-sightedness consist in the reduced faculty of accommodation of the eye; while the sound eye can accommodate itself to differ-

ent distances. The cause of this lies sometimes in the fact, that the refracting apparatus in the eye (the cornea—the aqueous humor of the front chamber of the eye—the

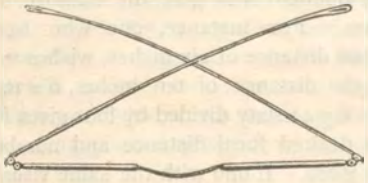


Fig. 7.

lens) refracts the rays too much in a near-sighted and not enough in a far-sighted person, so that if the far-sighted wants to view a near object, a similar condition appears as when one examines small microscopic objects with an opera-glass. In almost every case these defects are caused by habits: the occupation of the eyes of peo-

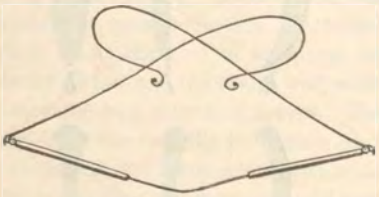


Fig. 8.

ple living in densely-built cities where they are accustomed from their childhood to see small objects, and close by, and seldom have occasion to view objects in a distance, conduces to near-sightedness; while country people, having more frequently to use their eyes on distant objects, are therefore

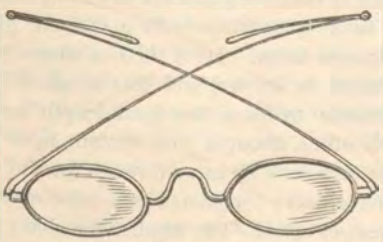


Fig. 9.

liable to far-sightedness. As near and far-sightedness are often educational faults, a cure may only be effected through education. Many near-sighted persons have recovered the harmony of sight during an extended journey, and far-sighted people have by a removal to a city been partly cured.

How can the condition of near and far-sightedness be distinguished? By measuring the point of proximity and distance. This may be effected in the following manner: Take a strong piece of thread about four yards long, fasten one end of it to a nail on the window, tie a knot about five inches from the other end, and then take the knot between the forefinger and thumb, so as to have the knot directly opposite the nail of the forefinger. Now hold the point of the forefinger in such a way before one eye (the other being closed), that you can look along the tensely-stretched thread toward the window, while it is highly illumi-



Fig. 10.

TESTING THE SIGHT.

nated. (See Fig. 10). You will observe the following: Close to the eye the thread looks broad and seems as if it were wrapped in a fog, then gradually it runs to a point where it looks thinnest, and you can there distinguish its twisting, and also some of the out-cropping fibers; further on the fibers grow indistinct and the thread appears broader, and then again seems to be wrapped in fog near the window. The point where the thread appears clearest is the point of proximity or distance. With near-sighted people this point is near the eye (Fig. 11, *c*), with far-sighted it is near the window. (Fig, 11, *d*). With perfectly sound eyes, however, it seems like a line. Now follow with a needle or a pin the thread to the point above mentioned, make

a mark on the thread and you have the visual distance of the eye. Then the experiment may be repeated with the other eye. Another way to measure the visual distance is the following: Take a card and make two holes with a pin as near together as shown in Fig. 12. Look through both holes at the same time toward the light,



Fig. 11.

while holding the card close to the eye, and bring before and between the two holes a small object, say a fine needle; near the eye you will see the needle double; by moving it horizontally forward it will appear at first single, then double again; where it appears single is the visual distance.

As we should select the frame in correspondence with the width of the eyes it is also necessary to select the glasses in correspondence with the visual distance. With a visual distance under ten inches we need a concave glass, either double concave (Fig. 13, *e*), or a plano-concave (Fig. 13, *f*), which are the sorts mostly used. More to be commended, however, are the convexo-concave (Fig. 13, *g*), because they enable one to get a clear picture outside of the focus. With

Fig. 12.

a visual distance of about twelve inches, convex glasses are to be chosen, which may be either double convex or plano-convex or concavo-convex. (See Fig. 13, *h*, *i*, *k*). The concavo-convex form is a segment of a globe, the radius of which gives the number of the glass. The lower the number of the glass, the stronger is its refractive property. In order to obtain for a certain visual distance the correct refracting glass, divide the product of the observed and the desired visual distances by their difference, the quotient will give the number of the glass. For instance, one who has the visual distance of six inches, wishes to read at the distance of ten inches, $6 \times 10 = 60$, $10 - 6 = 4$; sixty divided by four gives fifteen the desired focal distance and number of the glass. If one with the same visual distance desires a glass to read music perhaps at eighteen inches distance, then nine would be the proper number, because $(18 \times 6) \div (18 - 6) = 9$.

The same way the far-sighted has to proceed. If he, for instance, would read a newspaper not nearer than fifteen inches

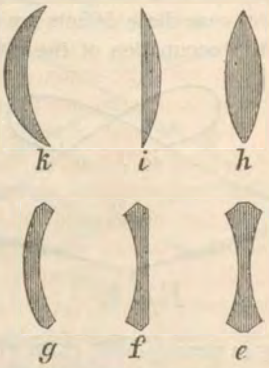


Fig. 13.

from the eye, but wishes to see distinctly at twelve inches, he would need a glass of sixty inches focal distance. The focal distance of concave glasses is to be ascertained by their comparison with a concave glass of known focus. Hold the one whose focal distance is known, and that of which it is desirable to learn the focal length beside each other, about a yard distant from the eye; then look by turns through them at the same object; for instance, a window of a house, or a tree. The smaller the object appears, the stronger is the glass, and its relative size can be thus estimated. The focal distance of convex glasses can be measured directly by intercepting in the focal center the rays of the reversed and diminished image of a distant object; for instance,

the image of the window on the opposite wall.

All means of relief to the sight by the selection of spectacles are only approximate, as the eye is not only an optical instrument, but a part of the living organism, and subject, therefore, to physical demands, which the general sanitary condition must meet. It is always advisable to select glasses which are as weak as possible, so that the eye shall not be strained in using the spectacles. Far-sighted persons sometimes use a stronger glass for reading than for writing. One should not try too many glasses, one immediately after another, when selecting a pair, for the eye becomes fatigued and the visual distance is in consequence temporarily changed, and one will be likely to select then spectacles altogether unsuited to him.

DR. RECLAM.

LETTERS TO A SON IN COLLEGE.

No. VI.

THE BRAIN—ITS RELATIONS AND CULTURE.

MY DEAR BOY: In the present letter I propose to consider the physiological laws which govern the brain as the organ through which mind is manifested.

The brain is the large organ which, with its membranes, completely fills the cavity of the skull. It is the seat of sensation and motion for all parts of the body, with which it is connected by a system of nerves. This, starting from the medulla oblongata at its base, sends out branches which divide and sub-divide, till they are so completely ramified through every part of the body that it is impossible to stick the point of a needle in the flesh anywhere without wounding some of these nerves, and causing a sensation of pain. It is through these nerves that we are brought into communication with the external world. We see, we hear, we feel, we move, only through the nerves which preside over these different functions. If we sever the nerve which connects the brain with the eye, sight will be completely destroyed, though the organ of vision may remain perfect in structure. The functions of sensation and motion have likewise different nervous filaments. By cutting the nerve of sensation the part through which it ramifies will lose the power of feeling while retaining that of motion; and by cutting the nerve of motion, activity in the parts through which it ramifies will be suspended, while sensation will remain unimpaired. The brain thus, by the nerves, brought into communication with the external world, is, by this means, furnished with the material for its higher functions of thought and volition.

How the sentient soul receives its impressions from the organs of sense; how through the brain it thinks, and feels, and wills, we can not tell. We may examine the eye, and find in the mechanical adaptation of its parts a most admirable arrangement for the performance of its distinctive function. We may trace the nerve which receives the image on the retina up to its origin in the brain; but further than this, we can not go; we can not analyze the subtle power which transfers the images continually passing before the eye to the sentient soul, and makes them so completely its own that memory may reproduce them long after they have ceased to be, or the organs of vision have been rendered sightless. But this much we do know: that so long as life continues, the mind can not act or be acted upon except through the medium of an organic apparatus. "If we trace the mind's progress from the cradle to the grave," says George Combe, "every appearance which it presents reminds us of this important truth. In earliest life the mental powers are feeble as the body; but when manhood comes, they glow with energy and expand with power, till at last the chill of age makes the limbs totter, and the fancy's fires decay."

Thus the mind is not only dependent upon organs, but the power with which it acts will be found to be in exact ratio to the size, health, and activity of those organs. In the development of mind, therefore, it becomes

a matter of prime importance to understand the laws and conditions by which the brain, as the organ through which it acts, may be preserved in a state of the highest vigor.

The brain, being an organized part of the physical system, is subject to the same general laws which govern other bodily organs. The same blood which flows through the body circulates through its substances and affords its sustenance. Waste is equally a law of its activity; and, like the muscles, it is strengthened by judicious exercise, exhausted by over-exertion, and enfeebled by inactivity.

Supposing the brain to be of an originally sound organization, the first law to be observed in the maintenance of this condition is a due supply of nutritious and well-oxygenated blood. In a previous letter I have given you some ideas in regard to the properties of food which will serve to guide you in supplying the brain with its appropriate nutriment. I have also explained the function of the lungs, and the conditions upon which depends the proper aeration of blood. You will be able. therefore, to appreciate the importance of the foregoing law; when I add, further, that, according to the best estimate, one-fifth of all the blood which leaves the heart goes to the brain. As circulation is a prominent function of nutrition, the brain must need a large amount of nourishment, when it requires so large a proportion of the circulating fluid; and when it is remembered that if the function of the lungs be imperfectly performed, the blood carries poison throughout the system, the sensitive brain must suffer in an especial manner because of the relatively larger proportion of poisonous matter which is presented to it in the circulation. This effect of vitiated blood upon the brain is abundantly borne out by experience; the close atmosphere of crowded churches, theaters, and lecture-rooms being notorious for its production of mental languor, and its tendency to induce headache, fainting spells, and hysteria, among persons of delicate organization. If you would supply the brain with an important condition of its highest efficiency, therefore, see that there is constantly presented to it nutritious and well-oxygenated blood.

In my last letter I fully explained the rationale of bodily exercise in giving strength and vigor to the muscles. The effects of mental exercise upon the brain are almost identical. By activity of mind the efflux of blood to the brain is greatly increased, the processes of nutrition and waste go on more rapidly, and the part of the brain which is exercised gains in power and energy. If the mental exercise be resumed frequently, and be not carried too far, this effect upon the brain becomes more permanent, and induces an increased facility of mental activity. But if the exercise be violent or excessive in quantity, permanent debility and even insanity not infrequently result. When, again, mental activity is altogether refrained from, the brain, from lack of its normal stimulus, becomes feeble and dull.

It is important that you, as a student, should fully understand and appreciate the evil effects of excessive mental exercise, because, in the vigorous competition for prizes and honors among college students, they are apt to forget that the mind is subject in any degree to the laws of organization. By their close application to study, they keep their brains in a state of continual excitement, which, as we have seen with the muscles, never fails to produce exhaustion. In carrying a heavy basket we frequently change it from one hand to the other, that we may give the muscles of each arm alternate periods of rest. He who is wise will treat his brain in a similar manner; and, instead of exhausting it by long-continued application, will occasionally allow its excitement to subside by engaging in some mental recreation or muscular activity which will divert the blood and nervous energy to some other part of the brain or body.

Thousands of bright and promising youth have been sacrificed by inattention to this important law of the mental constitution. They have devoted themselves with unremitted ardor to the acquisition of knowledge, regardless of the physiological law which demands for every bodily organ alternate periods of exercise and repose. They have exhausted one part by over-exertion, while

they have dwarfed and enfeebled another by inactivity. Thus they have taken from the base of the tower to add to its top till the harmony of its parts has been subverted, and the mere breath of heaven has been enough to complete its destruction. But they can not be justly blamed, for parents and admiring friends have praised and flattered them. Teachers, instead of instructing them in the laws of their organization or warning them against the evil effects of excessive mental exercise, have held out prizes to stimulate them to increased activity and diligence.

The *American Annals of Education* says, in speaking of the importance of combining muscular with mental exercise: "The Register of Education shows, in one year, 120 deaths. Examine into the particular cases and there will be found the undoubted effects of sedentary habits. Look at one name then. He had valuable gifts, perfected by two years academic, four years collegiate, and three years theological studies. He preached, gave much promise, and then died of a stomach disease. He contracted it while a student. He did not alternate bodily with mental labor or he had lived and been a blessing to the Church. When he entered on his studies he was growing into full size and strength. He sat down till his muscles dwindled, his digestion became disordered, his chest contracted, his lungs congested, and his head liable to periodic pains. He sat four years in college and three years in theological application. Look at him now. He has gained much useful knowledge, and has improved his talents; he has lost his health. The duties of his mind and heart were done and faithfully so; but those of his body were left undone. 375 muscles, organs of motion, have been robbed of their appropriate action for nine or ten years, and have become alike, with the rest of his frame, the prey of nearly 150 diseased and irritable nerves. . . . . When thought shall need no brain, and nearly 400 organs of motion shall cease to constitute the principal part of the human body, then may the student dispense with muscular exertion."

It is important also to observe that as the body is made up of many organs of motion, so the brain is made up of many organs of mind, and that that mental exercise is the best which calls into play the greatest number of mental organs, just as that physical exercise is the best which calls into activity the greatest number of muscles. The effects of excessive activity in individual mental organs is well illustrated in different phases of insanity. This, perhaps, is never so complete as to embrace every mental organ. More frequently it effects individual portions of the brain, and is caused by undue and prolonged activity of one or several mental faculties. Thus, one becomes demented by brooding constantly over disappointment in love, another by dwelling on the loss of a relative; another, of a miserly disposition, from thinking constantly of his money. Such being the extreme effects of the inordinate activity of individual faculties, it is reasonable to suppose that their exercise is injurious in a proportionate degree whenever it is carried so far as to produce exhaustion. Hence, you will perceive the importance of not dwelling too long upon any branch of study at a time, but of interchanging your languages, mathematics, etc., so as to give to the different faculties and combinations of faculties alternate periods of exercise and repose.

In my last letter I remarked that it is unwise to neglect muscular exercise during your term of study with the expectation of making it up during vacation, but that the muscular system demands, and should receive, regular daily exercise to preserve it in health and vigor. For a similar reason it is unwise to exhaust the brain by a term of excessive activity, so that a period of rest is required to restore its wasted energy. If you obey the laws which govern physical and mental activity, you will never need a vacation. Vacations are useful only as they tend to restore the equilibrium between the mental and physical systems by giving the former rest, and the latter exercise. Their utility, therefore, is a negative virtue which never should exist, for activity and repose, both physical and mental, should so alternate every day, that body and mind should be constantly preserved in a state of the highest efficiency. It is useful, also, to note that the mind is apt to lose its acquirements by

long periods of inactivity. We learn to dance, skate, swim, row, etc., by persevering in these different exercises till the muscles have become thoroughly habituated to their peculiar movements. If we stop short of this, we may renew the exercise occasionally without much advancement. But if we persevere till the muscles shall have acquired the requisite promptitude of action, their power to act harmoniously will be ever after retained, though seldom called into exercise. So it is with the mind. If you hurry over a course of study, as many students do, not with a determination to master it, but resting satisfied with making good recitations, and passing good examinations, you will be very likely to lose a larger portion of your acquirements during the inactivity of your long vacations. But if you observe the laws of mental exercise which I have given you, your vacations, instead of being periods of recuperating wasted energies, may be periods of continued growth and development, by reviewing and fixing firmly in mind the studies of the previous term.

The consequences of a deficiency of mental activity it may be useful for us now to consider. Keeping in mind that the brain is an organized part of the physical system, and, therefore, subject, like all other parts, to the general laws of growth and decay, we may comprehend how any part of it may become weakened and diseased by inactivity. We must bear in mind, in considering the effects of mental inactivity, that the brain is not only the seat of intellect, but also of the social and moral feelings, and that by exercising one of these classes of faculties exclusively, we treat the brain as irrationally as we would the muscular system by binding one portion of the body in splints and giving to the other vigorous exercise. If a man were to shut himself out from society, and devote himself exclusively to a single monotonous occupation for a considerable time, he would certainly develop irritability and weakness of the nervous system from the non-use of the large portion of the brain which is called into activity by intercourse with society. Mr. Combe speaks of a young officer who spent three years commanding a small detachment, in a remote station in Canada. Being cut off from all intercourse with those of his own rank, he spent his time mostly in fishing and hunting. From want of the healthful excitement which is afforded to a large portion of the brain by the society of equals, he found on his return home, that his nervous system had become so weak and irritable that he feared to meet even the members of his own family, and for weeks he would not venture to walk out except in the dark. It required several months to restore the tone of his nervous system, so as to enable him to return to his former habits of life. "In this predisposed state of the nervous system," says Mr. Combe, "a very slight cause would obviously have sufficed to convert the depression into absolute derangement."

"The deaf and dumb," says Andral, "presents in his intelligence, character, and the development of his passions, certain modifications which depend on his state of isolation in the midst of society. He remains habitually in a state of half-childishness, is very credulous; but, like the savage, remains free from many of the prejudices acquired in society. In him the tender feelings are not deep; he appears susceptible of neither strong attachment nor lively gratitude; pity moves him feebly; he has little emulation, few enjoyments, and few desires. This is what is commonly observed in the deaf and dumb, but the picture is far from being of universal application. Some, more happily endowed, are remarkable for the great development of their intellectual and moral natures; but others, on the contrary, remain immersed in complete idiocy." Andral adds: "that we must not infer from this that the deaf and dumb are, therefore, constitutionally inferior in mind to other men. Their powers are not developed because they live isolated from society. Place them, by some means or other, in relation with their fellowmen, and they will become their equals."

We find, even in society, abundant illustrations of the evil effects of the non-exercise of the mental faculties. Many business men, for instance, after having devoted the best part of their lives to the acquisition of wealth, promise themselves much enjoyment in the ease and leisure of retirement, as a fitting

reward for their many years of laborious industry. But, instead of enjoyment, they often find mental and physical languor, because of the withdrawal from their brains of the nervous stimulus to which they have been so long accustomed. So many individuals from whom wealth removes the necessity of engaging in some active employment, are often afflicted with ennui, and become morose and discontented from lack of that agreeable stimulus to the brain and nervous system furnished by active mental faculties. The necessity of both mental and physical labor is thus impressed on the constitution of man. They who ignore this institution of the Creator, and seek enjoyment in a life of indolence, will never find that which they seek, for the truest happiness of life is that which springs from the harmonious activity of all our faculties in some occupation which contributes not only to our own comfort and enjoyment, but also to the well-being and happiness of our fellow-men.

Having considered the evil effects of excessive and deficient mental exercise, it now remains for me to introduce a few observations upon the conditions for the proper activity of the mental faculties. We have seen, in a previous letter, that because the exercise of a part of the body determines the blood and nervous energy to that part, two classes of functions can not be called into vigorous activity at the same time without diminishing the energy of each, and sooner or later inducing disease. Hence I laid it down as a physiological law that muscular exercise should be refrained from immediately after eating, because of the concentration of the blood and nervous energy in the stomach during the process of digestion. For the same reason I would now advise you to avoid all mental application immediately after meals. Light conversation or light, pleasant reading, may be indulged in to advantage, but serious study will certainly prove injurious. The importance of this law is well illustrated by the fact that sudden bad news or deep grief takes away the desire, and even causes a loathing for food, though we sat down at the table with a keen appetite. It is well, also, to avoid severe mental application just before going to bed, that the blood may be withdrawn from the brain, and the nervous system reduced to that state of quiescence which is favorable to sleep. Sleep being the means ordained by the Creator for restoring the wasted nervous energy to the brain and muscles, it is of the highest importance that nothing interfere with the obtaining of an abundant and regular supply of this restorative. If you retire immediately after vigorous mental exercise, the blood which is coursing through the brain can not be at once withdrawn, and a habit of wakefulness is likely to be formed which will be difficult to overcome, and which, if persevered in, will ultimately induce an irritability of the nervous system approaching to insanity.

Another condition for the proper activity of the brain is regularity in mental exercises. There is a tendency in all bodily functions to resume the same mode of action at stated intervals. Thus the stomach digests food best if it be eaten at regular hours. The body receives the greatest benefit from exercise which is taken at a fixed time every day. Sleep also tends to come on at a stated hour, and we wake as regularly as the hands of the clock go round. The nervous system is peculiarly susceptible to this law of periodicity, and performs its function best when it is called into activity at fixed and definite hours. It is important, therefore, that you have regular hours for studying as well as for eating, exercise, and sleep. Accustom yourself to regularity in the performance of every duty, and you will find every bodily and mental organ acquiring an inclination to act and a facility in acting in the highest degree conducive to the energetic performance of its function. Devote the fore part of the day to the most important part of your studying, and reserve the evening for your lightest mental exercises. Retire at an early and regular hour—say half-past nine—and rise at six. Accustom yourself to banish every thought from your brain the moment you lie down, and between these hours you will be able to obtain an abundant supply of refreshing sleep.

It is to be remembered, also, that the brain is the organ of every desire, every feel-

ing, and every sentiment which arises in the mind, as well as of thought and intelligence, and hence, in the formation of character, we must be guided by the same general laws as in the acquisition of knowledge. To become skillful in mathematics, music, and drawing, we must habituate ourselves to the actual practice of the mental and manual operations required in these different branches. The music teacher does not expect to make his pupils skillful in his art by merely giving them instruction in the rules of music; but he places them before the instrument, and trains their fingers by actual experience to properly strike the keys, knowing well that it is only by continued and reiterated practice that they can acquire the precision and facility of expert performers. So in the development of character, it is not enough that the mind be instructed in the principles of truthfulness, justice, and benevolence, but we must place ourselves in situations where the organs which preside over these sentiments will be called into activity, for it is only by the actual practice of these virtues that the parts of the brain which preside over their manifestation acquire energy and facility of action. If you wish to cultivate a charitable and kindly disposition, you must go where poverty and sorrow exist, and put forth the hand to relieve the distress. Would you be truthful and just in character, habituate yourself to the practice of these virtues in your intercourse with your fellow-men. Would you be bold, determined, steadfast, and self-reliant, throw yourself into the midst of difficulties and responsibilities, where the parts of the brain which preside over these dispositions will be called into activity, and rendered prompt and energetic to manifest them habitually. It is thus that habits grow, and character is formed. That which is merely an inclination in the beginning, becomes by frequent repetition, an impulse which the strongest will is powerless to control. If we seek for occasions which call into play the truthful, kindly, noble, and generous qualities of our nature, we gradually develop these characteristics till they become the guiding and controlling principles of our lives. If, on the other hand, we associate with the vicious, the depraved, and the abandoned, we insensibly grow like them in character, because our lower nature is called into habitual activity, and the elevating and ennobling powers of mind are allowed to remain in a state of quiescence. Choose your associates, your reading, your amusements, and your occupation, then, with a view to the activity of your higher nature, and you will insensibly grow toward the full stature of a generous and noble manhood. Affectionately yours,

PATER CONFIDENS.

How Tobacco Impairs Vitality.—The Senior-physician to the Metropolitan Free Hospital in London writes as follows: "I can testify, from long observation, that the chronic use of tobacco in any form is a very prevalent cause of debility and manifold diseases. Take, first of all, the sense of sight. One of our most celebrated London ophthalmic surgeons tells me that he is continually consulted by young gentlemen for weakness of vision caused by smoking; and I myself have in many cases seen the prolonged use of tobacco, especially when it is chewed, cause total loss of sight. Then take the circulatory system, and we find smokers subject to palpitation of the heart, and far less able to bear up against extremes of cold and heat than they were before making use of tobacco. The use of tobacco is apt to cause relaxation of the muscles of the back of the mouth, and dusty discoloration of the fauces, with hoarseness from congestion of the vocal cords. The overwhelming majority of cases of cancer of the lip are found in men who smoke, and cancer of the tongue has often been said to be caused by the irritation of the fumes of the pipe or cigar. Great smokers lose, to a great extent, their vivacity, *i. e.*, they are less vital than they used to be, and less easily moved by slight *stimuli* which might prove pleasureable to non-smokers. They are notoriously dyspeptic. I need hardly refer, indeed, to such a well-known fact. They are subject to constipation and *malaise;* and when deprived of their stimulus, are more miserable, perhaps, than even drinkers. I must take the liberty to protest against a custom which has been inveighed against by Brodie, Copland, Critchett, Guerin, Mantegazza, Cacopardo, and numerous heads of my profession in all countries."

MEDIÆVAL HYGIENE.

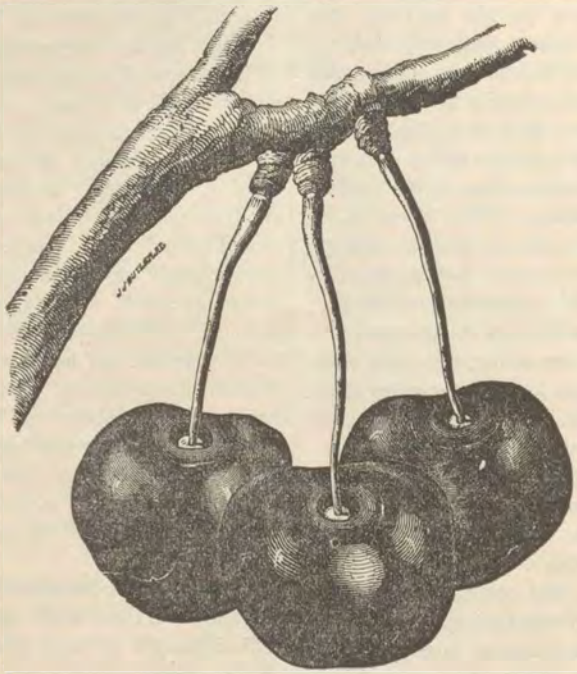
THE excellent Archbishop Fénelon in his celebrated book, "The Adventures of Telemachus," has something to say with regard to the kind of treatment of wounds and diseases inspired by Minerva, who attends the wandering youth in the guise of a counselor. Some of our readers will, perhaps, remember the incidents in the war undertaken by Telemachus in behalf of Idomeneus, and how, on one occasion, after a battle, there being many wounded, two physicians, whom Telemachus had engaged, gave their services to the wounded and the sick. One of these physicians, Nosophugus, is particularly described, and his system is not without its admonition to our modern doctors. Translating freely from an old edition a pargaraph or two as follows: "Scarcely had he seen a patient when he recognized, by the appearance of his eyes, by the tint of his skin, by the posture of his body, and by his breathing, the cause of his illness. Sometimes he gave remedies which occasioned sweat, and he showed by the effects of the sweating how perspiration retards or facilitates, deranges, or restores the whole bodily mechanism. Sometimes he gave for affections of a debilitating character certain draughts which strengthened little by little the noble parts, and which renewed the vigor of men through the purification of their blood, but he insisted that it was on account of the want of virtue and courage mainly, that men so often had the need of medicine. 'It is a shame,' said he, 'for men to have so many maladies, for good habits conduce to health. Further,' said he, 'their intemperance changes to mortal poison the food intended for the preservation of life. Pleasures entered upon without moderation shorten more the days of men than remedies can lengthen them. The poor are less frequently sick on account of their want of nourishment than the rich on account of their having too much. Food which pleases the appetite too much, and makes us eat beyond our need, poisons instead of nourishing. Remedies themselves are true evils which wear out nature, and should be only used in urgent cases. The grand remedy which is always innocent and always useful is sobriety, temperance in pleasure, tranquillity of mind, exercise of body; thus one can have sweet blood and an even circulation, and all the superfluous humors may be disposed of.'" We are told, also, that this sage "was less admirable on account of his remedies than on account of the regimen which he advised for the prevention of disease, and for rendering remedies useless."

Our later hygiene can scarcely boast higher principles than these which adorned the best medical thought of two hundred years ago.

TYPHUS FEVER AND DRAINAGE.

THE *Deutsche Medicinische Wochenschrift*, of Berlin, furnishes some very important statistical data on the relation of typhal fevers to the cleanliness of German towns, from which it appears that the mortality of this disorder is diminished very specifically by an adequate sewerage system. In Hamburg, which has had a regular system of sewers longer than any other German city, the statistics for the seven years previous to the introduction of sewers (1838–'44) show a mean mortality from typhus fever, as compared with the whole number of deaths, of 48.4 per thousand; while, during the nine years in which their introduction was in progress (1845–'53), it fell to 39.3. During the first eight years after their completion (1854–'61), the mean mortality from typhus fever was 29.3 to the thousand deaths. During the second eight years (1862–'69) it fell to 25.7—that is to say, to about half of what it was before sewers were introduced. For the three years 1872–'3–'4 the reports of the medical inspector showed a mortality of 2.68 only for those parts of the city in which the sewerage system was perfect, while it was 3.2 in certain districts in which sewers were being laid.

and 4.6 in the suburbs where there were no sewers at all. In two of these outlying villages the mortality from the fever was 7.0 and 6.6 against 2.68 in the central portions of the city. In Halle, from 1852 to '61, inclusive, the mortality from the fever was 36 per thousand, and during the epidemic of 1862–'3–'4–'5 it rose as high as 194, 215, 254, and 166. In 1870, with the introduction of the new water supply, it fell to 14. After a study of all the facts and statistics, the writer, on no less authority than Professor Virchow, comes to the conclusion that the contamination of drinking water by means of sewage matter soaking into the earth, is the special manner in which typhus usually originates in German towns and villages.



THE CHERRY--Cerasus.

History—Wholesomeness—Cherry Gum—Timber—Varieties—Culture—Cooking and eating.

Recipes.—Cherries Stewed—Pie — Ambrosia — Frosted —Dried.

CHERRIES are ripe! The first tree-fruit of the season holds out its ruby lips for the kisses it will be sure to receive most freely, and its coming seems to open the hearts of all who have anything to do with it. Indeed, by its own very abundance, it sets the fashion of bountifulness, and shames the niggardly into opening their hands. To all others it gives the coveted means for abundant giving. Friends send salutations to friends, neighbors to neighbors, of the tempting fruit. The older residents embrace the suitable opportunity to send to recent comers their kindly greetings. Employers make up "cherry parties" for employés, young people meet with their seniors in smaller parties, the boys are made useful in climbing, to their great delight, and send down abundant treasures into waiting baskets; torn trousers are indulgently overlooked; and even peccadilloes grow less, and the greedy boy grows gentlemanly when he finds his appetite for cherries recognized, and he is served with his elders, and a liberal supply is given him to take home. What a God-send the cherries are, to be sure!

Let us take our dessert dish of cherries

out under the trees this warm day. How cool and nice they are, and with the dew on them yet! Well, let it seem so if it may; but, to tell the truth, the dew came from the ice-room, where they have been standing for the last hour. These are the soft, sweet, dark ox-hearts, and the showy, firm-fleshed Bigarreaus, so called from their mottled colors. These are not native fruit, though we have several kinds that are natives. In this respect cherries differ from pears and apples, for there are several species quite distinct from each other, which can not be hybridized successfully. The choke-cherry of our forests, which bears its fruit in racemes, will not mingle with that which bears its fruit in clusters, even so far as to admit of intergrafting. We have besides this, two or three other kinds of wild cherries, some of which are a little more manageable than the choke-cherries, but all the cultivated kinds came from Europe, and have long been under cultivation.

HISTORY.

Mithridates, a physician and king of Armenia, about the year 100 B. C., is reputed to have first cultivated the cherry, and brought it to a worthy state of perfection. He was not, however, of so amiable and benevolent a disposition as we might expect from such peaceful pursuits, for, becoming restless under the Roman rule, he planned to free himself from it by rebellion, and the assassination of every person of Roman birth or extraction on the peninsula. The slaughter was horrid, and, of course, it brought down upon him the vengeance of Rome, whose legions marched forthwith against him and prosecuted a most destructive war, in which 155,000 of the Armenians perished. Lucullus, on his return to Rome, enjoyed a splendid triumph, and of all the rich spoils, from which, as victor, he was entitled to choose, he selected Pontic cherries wherewith to deck his triumphal chariot.

There is doubt whether cultivated cherries were known previous to this time, but this certainly brought them into prominence, and probably introduced a new and more valuable variety than any with which they were previously acquainted. There had been, certainly, abundant wild cherries in Europe, and it is by no means certain that the Mithridatic cherry is the progenitor of all our cultivated cherries, though Lucullus has the honor of giving the cherry its first permanent introduction to Rome. It is possible that the red sour cherry was that which was thus introduced; for the black cherry is found growing universally in the woods, and as thriftily as the oaks and beeches by which it is surrounded; while the sour cherry is found wild only in the vicinity of human habitations.

This black cherry was a great favorite among the poorer classes, who used it stewed with a little water and ate it with their bread. They not only used it thus while fresh, but they dried it on boards in the sun or in ovens, and thus they had a supply for the whole year. So highly was it prized for this purpose, that a law was passed in 1669 for the special protection of the cherry trees in the royal forests. In consequence of this they multiplied to so great an extent that they bid fair to occupy all the woodland. Then another law was passed quite ignoring the wants of the simple poor, commanding that a certain small number of trees only be exempt from destruction for the sake of their timber. Cherries, however, still abound in the fatherland, and they are eaten freely, stewed with sugar and water, slightly thickened with flour. Avenues of the trees are planted along the roads in Germany and in Switzerland. One such avenue extends from Brunn to Olmutz, a distance of sixty miles. One traveler speaks of journeying all day in another such avenue from Strasburg to Munich. This is partly the result of Governmental regulations, though the trees are planted by the owners of the contiguous farms. As much of the fruit as they wish is secured to them, if they but indicate their wishes to that effect, by tying a wisp of straw around a prominent branch of the tree they wish reserved. That would be a small protection here, where cherry trees are scarce, but there, where the gatherer would only be obliged to walk a few steps further, he might well afford to respect it. Perhaps we might enjoy the

same immunity here, if we tried the same means.

In some places this fruit has various pleasant associations connected with it. At Erfurth, where they have large cherry orchards, they set apart one day in every year, when the fruit is ripe, for a cherry festival. At Hamburg they observe an annual "Feast of the Cherries." Troops of children carrying branches hung with the ripe fruit parade through the streets with joyful cries. This is said to perpetuate the memory of an event which occurred in 1423, when the city was threatened with destruction by the Hussites. All the children in the city between the ages of seven and fourteen were sent out clad in mourning to ask the clemency of the conqueror. The hostile General was so touched with the sight that he granted their utmost request, feasted them with cherries, then ripe, and sent them home laden with that fruit and crying: "Victory, victory."

WHOLESOMENESS.

Cherry festivals are also held in some parts of England, and, indeed, we may safely say that cherry time is looked forward to by all the young people everywhere as a joyous season. Some of them, indeed, are obliged to put on long faces, for the barbarous days are not quite gone, in which they are condemned to hear the ditty:

"Cherries are ripe! cherries are ripe!
But baby can have none!"

If they never feed the children anything worse than cherries, the poor innocents, would escape many a gripe to which they are now subject, even in cholera times. There is no doubt that children suffer from eating partially ripe fruit, and especially from overeating the ripe fruit. Cherries come so early in the season, and are so temptingly abundant, that they are obliged to bear loads of guilt which do not properly belong to them. Similar remarks, it is to be feared, might also be ventured in behalf of some older people. More than most fruits the cherry is taken "between meals," as if it were so good that the temptation to partake could not be resisted. It is served fresh at meals much more rarely than most of the berries; and though it is beginning to be common at desserts, yet that is a poor time to test its wholesomeness, since the stomach is usually already filled, if not loaded. So it happens that the fruit has obtained a bad reputation, being accused of faults which belong much more to man's greediness. If people should eat them throughout the meal, as they do other food, and not overeat, any more than they do of other food, we should hear far less than we do now of the unwholesomeness of cherries. We should not expect that they would agree so well with those who are not free and habitual fruit eaters. A man who has fed largely on the flesh of animals, and saturated his tissues with their fat until it oozes out from all his pores, and the gastric juice of whose stomach has been obliged to adapt itself to the digestion of such food, can not expect that he would, under the same conditions, be able to manage a stomach full of cherries. But I believe that almost every man in ordinary health, who has been accustomed to a hygienic diet, could eat a full meal of cherries, especially of those which are sweet and ripe, and feel very comfortable after it. He doubtless would be hungry sooner than if he had eaten some good Graham bread with them, but with that it would be an easy matter to make him feel quite comfortable until the next meal. The sweet cherries are more nutritious than the sour, containing, in extreme cases, one-fifth more solid matter.

Stone fruit generally has the reputation of being less wholesome than pip fruit; but while we allow that the latter may be more freely eaten by invalids, we are decidedly of the opinion that to those in health it makes no material difference. Some writers very seriously warn against swallowing the stones. Dr. Pereira considers it worth his while to say that he has known fatal enteric inflammation produced by the accumulation of cherry-stones in that mysterious *appendix cæci*. I will not be barbarous enough to say that it is of very little importance whether people who indulge such practices live or die; but I will venture to express my belief that we are now so far civilized that no such caution will be needed.

CHERRY GUM

is the sap of the tree that exudes usually through some wound. In some respects this gum resembles gum-arabic. It can be used in the arts for similar purposes. But it should be prepared with boiling water, as it is only partially soluble in cold water. Its nutritious properties have been highly extolled, and some wonderful stories are told of its power to sustain life in the absence of other food They are, however, of doubtful reliability. We believe that science itself has not yet decided that gum is nutritious in the human system.

This gum being the sap of the tree, its loss is always a severe tax on the tree, which in health must be wounded in order to obtain it; and wounds on a cherry tree are always to be avoided as much as possible, as they are difficult to heal. Age, disease, and deficiency of nourishment may all of them produce the gum.

The cherry is one of the few fruit trees whose wood is in much demand for

TIMBER.

In Paris it is extensively used for furniture, being considered second only to mahogany. In this country there are several other woods which outrank it, though there is a Virginian cherry tree which is very handsome. In former days cherry was much used for tables, and our grandmothers thought one or more cherry tables indispensable to their outfit. For coffins it has been much used and is still in demand. For light pieces of cabinet work it is very pretty. The boys will find it very easily managed for brackets, and much more satisfactory than staining wood to make it resemble black-walnut. For lap-boards and drawing-boards it is very pretty and convenient. I have a small drawing-board, presented me by a country cabinet-maker, only a quarter of an inch thick, which I find extremely useful for many purposes. A set of little brackets, from the same source, which I fasten up at the sides of my window, to set my flower-pots upon, are very useful, and enable me to make my windows look exceedingly pretty. By the way, this arrangement of flowers is as pretty in many respects as that of hanging-baskets, while it is less expensive and far more convenient.

VARIETIES.

The two great divisions of the cherry are the sweet and the sour. Others divide them into Mazzards, Bigarreaus, Dukes, and Morellos. The first are the sweet, heart-shaped fruits; the second, the light or speckled, firm-fleshed fruits. The Dukes are sweet and melting, and the Morellos are the rich, but acid pie-cherry. The Kentish pie-cherries, which have long been famous in England, belong to the latter class. There are not so many varieties as of the apple and the pear, about three hundred being all that are ever reckoned in the most elaborate fruit-books. Since the trees are mostly grown from the seed, and these very much inclined to sport, the indications are that this fruit has not been as carefully looked after by the amateurs and fruit-lovers as some others. This may be partly accounted for by the fact that it is a temporary fruit, not capable of being kept so long as the later and more solid fruits. Nevertheless, it is sufficiently valuable to deserve much more care than it gets, and if people devoted some of the time to this which they now give to tobacco and some other worse than worthless things, the poor of our large cities might get a much larger supply than they do of wholesome fruit, and greatly to their dietetic advantage. It is true that it would require more care in the boxing and shipping than it now gets, in order to ensure its longer keeping, but these difficulties are not insurmountable. To those who object that half-decayed cherries are unwholesome, while we admit the fact, we reply, so is tobacco, and yet people do not seem to think that any serious objection to having it placed in the market.

CULTURE.

The cherry is a hardy tree, and flourishes better in the North than in the South. A sandy or gravelly soil suits it best, and these are not difficult to find. But it is very impatient of wet, and if the situation is low, or the subsoil holds water, do not put your cherry-trees in any such locality if you wish to keep them and gather fruit from them.

The Morellos will do very well on a clayey soil. They are usually grown from the seeds of sweet sorts, the trees being of stronger and taller growth. The acid sorts are usually grafted on these stocks. Cherry-stones intended for propagation should not be allowed to become very dry. When well cleaned, they may be packed away in moist sand, where they should remain freezing and thawing until spring, when they should be planted out in light soil as soon as the frost is out of the ground. They will come up during the first warm weather. They should be in rows, not thick enough to crowd each other, and be kept clear of weeds. The next spring they may be transplanted. About midsummer bud them with the sorts which you wish them to bear. When two or three years old, transplant them where you wish them to grow—all about your house, in your yard, and along the roadside. It is well to begin to set a good example; some one must be first. Perhaps by unvarying kindness, you may train the boys so that they will at least not break down the trees when they are gathering the fruit; and by offering them a good percentage for gathering, you may show them how much better it is to get their fruit honestly. Further, it would be a good plan, after you have learned how, to keep some young trees on hand, and sell them to the boys for little errands they can do for you. Nothing will sooner cultivate the barbarian out of them than to set them to cultivating fruit trees of their own. The same might apply to other fruits, and one man can thus, by tact and kindness, often recast the entire bent of the community in which he lives, and others, seeing how easily it may be done, will go and do likewise. I fear that we do not sufficiently consider that other people's children are in no small degree our children also; and that we have a very great responsibility for their proper education. I am very certain that neither parents nor other people see sufficiently the advantages of educating the young by giving them actual information about things of this sort that they might do, and which would be at the same time of real money value to the community, and a still greater value to the world, because of the enterprising men that it would produce. Why not take advantage of a boy's love for cherries to help make a man of him, rather than to let that same taste drag him down to, perhaps, a felon's doom?

COOKING AND EATING.

"Cherries are better to be eaten without cooking," says a critic. Granted. Pick them on the stems, pile them up on the fruit-dishes, and eat them with your food, without dressing, all you wish of them. Send some to your neighbors, dry all you have time to dry, can all you have time to can, and yet you will have some left. Moreover, to-morrow is Sunday, and you would rather rest than to go out to pick more; besides, you wish for variety, and I see no reason why you should not cook some cherries if you wish to. You may stew them with golden dates, if you object to using sugar; you may make them into pies; and better still, into ambrosias. The very first ambrosia I ever made was with cherries, and it is difficult to find anything better now, if you can be deliberate enough not to break your teeth on the cherry-stones. If the sour sorts require too much sugar, use the sweet; if these do not give you flavor enough, mix the two. Suppose we try some of these things.

RECIPES.

STEWED CHERRIES.—Strip the cherries from the stems and stone them. (By the way, I hope you have that ingenious little machine called a cherry-stoner). Place them in a porcelain-lined saucepan, with a small proportion of golden dates, finely chopped, and water enough to cover them. The relative proportions vary with the degree of acidity of the cherries, so that no exact directions can be given. At first it might be well to stew them separately, and then mingle and barely scald together, and you will soon learn to judge for yourself. Serve cold. The common Barbary dates would impart a flavor disagreeable to most people.

CHERRY PIE.—Make a crust with fine oatmeal, wet with one-fourth part water, or any other crust that you prefer, place the stoned and scalded fruit in it, with juice enough to nearly cover it; sweeten with granulated sugar, or with chopped and stewed golden dates, and bake fifteen or twenty minutes in a good oven, being careful not to scorch the crust.

Another way is to stone the cherries and press

them as solid as possible into the crust; sweeten and spread over them a thin batter, made of Graham flour and water, spreading it down barely to meet the lower crust, leaving some breathing places, and bake half an hour.

CHERRY AMBROSIA.—Stem the cherries, but do not stone them. Make a batter with water and good Graham flour, quite as thick as for gems, and with this line a deep nappy that has been well oiled; place a layer of the unbroken fruit on this, sweeten, and sprinkle in a very little Graham flour, not enough to hide the fruit, not more than a heaping teaspoonful in a large nappy; then put a little more of the batter around the edge, another layer of cherries, sweetened, and lightly sprinkled with flour, a little more batter at the edges, and another layer of fruit, and then cover this with a thin layer of batter, leaving vents for the steam around the edge, so that the juice will not run over. Observe all the directions carefully. Rightly made, this is a wholesome and delicious dish, but most people spoil it in making it. They think it will do just as well to stone the fruit, or stew it, or they will "just try it" in a pie-dish, or they do not bake it sufficiently. By the way, it should be delicately browned, top and bottom, the fruit perfectly cooked in from thirty to seventy-five minutes, according to the size and the heat of the oven, and then mind if you let the juice all run out, it will be dry and tasteless. Serve warm or cold. If warm, it will be a little tough; if cold, cover it while cooling with a light tin cover to soften the crust with the steam. Many prefer it the second day. After that it is likely to become dry.

FROSTED CHERRIES.—Beat up the white of an egg; have a strip of strong pasteboard with slits in it about an inch and a half apart; have ready large dark cherries, of a good flavor, on the stems; dip them lightly in the beaten egg, and then slip them into the slits of pasteboard, stems down, fruit up; then sprinkle the fruit with pulverized white sugar from a castor, and place in a good current of warm air, where they will dry quickly. Serve soon for dessert.

DRYING CHERRIES.—They are a little nicer to be dried without the stones, but this makes no small amount of work; so after drying all you have time to dry in that manner, and canned all you care to, put in a larger amount still to dry unstoned. They should be large and good, so that they shall be worth drying, and there will be enough on the stones to pay for eating when they are stewed. They make rather deliberate eating, but if they are carefully dried and kept, they make a sauce of very agreeable flavor, particularly refreshing in the spring. In spite of the prejudice against the stones, they are much patronized at public and private tables, and preferred, indeed, to most other kinds of dried fruit.

JULIA COLMAN.

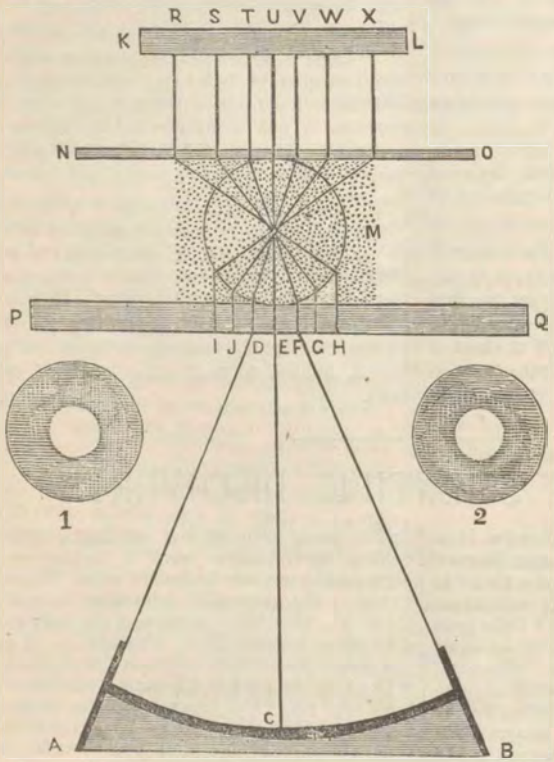
RECORD OF SCIENTIFIC DISCOVERY.

A New Element.—The scientist Hermann has announced, in the German *Journal of Chemistry*, the discovery of a new metal in material found at Haddam, Ct. It is obtained from tantalite, of which it forms a little over six per cent., the rest being metallic acids of tantalum, niobium, and ilmenium. Hermann calls it neptunium. He has so small a quantity of the material at his disposal that he has been unable to reduce the oxide to a metallic state. With soda it colors microcosmic salt golden yellow. It is the first element discovered for many years by mineral analysis, although in the past seventeen years five metals—cæsium, rubidium, thallium, indium, and gallium—have been discovered by spectrum analysis. The atomic weight of niobium is 118.2, giving neptunic acid the formula $Np_4 O_7$.

A Prize from Egyptian Antiquity.—A large roll of papyrus, covered with inscriptions, was discovered some twenty years ago under the floor of an old tomb in Thebes. It was 139 feet long by 16½ inches broad, and looked something like a stair-carpet. Mr. Harris, the lucky finder, bought it for a comparatively low price. His daughter, Miss Harris, felt convinced that it was a treasure, and to make sure against accidents, set herself to the immense work of tracing every sign and letter on it upon a paper of equal extent. She succeeded in making a fac-simile of it. Her father died, and the lady took a house at Koumel Dyk, Alexandria. A few years ago an explosion occurred in the house, which was reduced to fragments. Of its contents the two chief treasures alone escaped unharmed—the papyrus and Miss Harris herself. The great Egyptian archæologist, M. Brugsch Bey, examined the papyrus and told the Khedive of its great value, and the Egyptian Government offered the sum of £2,000 for it. But Miss Harris would not part with it. She brought it to England, when the British Museum purchased it for a larger sum, and from that time to this, Dr. Birch and his corps of Egyptologists have been deciphering it, while scribes have been engaged in copying it. It proves to be a complete record of the life and works of Rameses III., and a statement of the condition of things at Thebes three thousand years ago.—*Bibliopolist.*

Structure of Blood Corpuscles.—Although the term "blood disk" is still employed in authoritative quarters in describing the red corpuscles of animal blood, its

propriety is very questionable. The determination of this question resolves itself into this: "If blood corpuscles are really flattened bodies, each having a luminous spot in the center, as they are usually figured, then the term "disk" is admissible; if, on the contrary, the luminous spot and the disk-like appearance are purely optical phenomena, then there is no propriety in describing them as disks." That both these properties are optical illusions, not real elements of structure, appears to follow conclusively from a consideration of the simple law of optics illustrated in the diagram, namely: That when a ray of light passes from a refracting medium of lesser into one of greater density, it enters



Blood Corpuscle Structure.

the latter at right angles to the plane of its surface. For instance: if a sphere of solid glass is fitted into an aperture in a dark screen, and the light of a gas jet is directed upon it, each ray is refracted towards the center of the sphere, and as all the rays meet at that point, a perfect representation of the jet is presented within the ball. The blood corpuscle illustrates the same law on a minute scale. In the diagram, which follows the course of the illuminating rays from the mirror to the object glass of the microscope, M is supposed to be a vertical section of a blood corpuscle at 3,000 linear; P Q, a section of the glass slide upon which it rests; N O, a section of the cover; A B, a section of the concave mirror; K L, a section of the inferior surface of the object-glass; A D V, B F T, and C E U show the course of the illuminating rays, reflected from the mirror, passing through the slide, through the corpuscle, through the glass cover, and finally entering the object glass. I X, J W, G S, and H R show the same phenomenon, but are not continued downward to the mirror. A ray of light impinging on the mirror at A, and reflected, travels upward and inward to D, where it comes in contact with the slide, enters it at right angles to its plane, and continues to travel in the same direction until it comes in contact with the envelope of the corpuscle. Here it is again bent from its course, passes through the center of the minute body, and resumes its perpendicularity to the plane of the slide on entering the cover. It thus follows that the rays of the pencil that serves to illuminate the corpuscle under observation all cross each other, at or near its center, forming a sheaf of light, and producing the luminous spot so frequently described. The large luminous ring exhibited when the corpuscle is viewed beyond the focal distance, is caused by the dispersion of the light after the pencil has passed the center of the corpuscle. To demonstrate, experimentally, that the foregoing remarks are well founded, the scientist has only to test them with a microscope having a delicate hair adjustment. At 600 diameters — a very medium power for such observations, bring a special corpuscle, selected for study, into the center of the field. Having done this, lower the tube until the corpuscle disappears; and, on raising it slowly with the hair adjustment, a small luminous ring first comes into view. This gradually merges into an intensely luminous point, as the elevation of the tube continues. Finally, the luminous point gradually expands into the upper and larger luminous ring. The less firmly the cover is pressed down, the larger will be the luminous ring with which the observation terminates, but it will make no difference with the first ring that comes into view, or with the brilliant point that follows it. Cuts 1 and 2 show the relative proportions of these luminous rings at 2,500 diameters. This experiment conclusively verifies the hypothesis illustrated in the cut, by following the pencil of rays in detail through the corpuscle under inspection. The dispersion of the rays after they have crossed is corrected by the cover;

hence the difficulty that attends the study of animal blood with the cover omitted. The latest German authorities, particularly Hermann, concede the fact that blood corpuscles are not flattened bodies in their earlier stages of life, but hold that they become so at a later period. It is probable, however, that the flattened appearance of the aged corpuscle is due to the greater thickness and density of the envelope. With my best glasses and a low light, I have never yet viewed a corpuscle, old or young, that did not resolve itself into a simple globular body, perfectly transparent, enveloped in a thin membranous sac, which is the seat of color.—*F. G. Fairfield.*

Do Plants Think?—Some interesting data with regard to the movements of plants are published by the *Scientific American.* These movements often assimilate mental action, and are certainly very interesting subjects of observation.

Darwin has observed in the *Drosera rotundifolia* a faculty for selecting its food, which in animals would be attributed to volition. Mrs. Treat has described the same trait in the plant. On being deceived by means of a piece of chalk, the Drosera curved its stalk glands towards it, but immediately discovering its mistake, withdrew them. The plant would bend toward a fly held within reach, enfold it, and suck its juices; but would disregard the bait if out of reach, showing not only purposive movement (or a refusal to move, as the case might warrant), but also a certain power to estimate distance.

Again, Darwin has shown that the more perfect tendril bearers among climbing plants bend toward or from the light, or disregard it, as may be most advantageous. Also, that the tendrils of various climbers frequently attached themselves to objects presented to them experimentally, but soon withdraw on finding the support unsuitable. He says of the *Bignonia capreolata* that its tendrils "soon recoiled, with what I can only call disgust," from a glass tube or a zinc plate, and straightened themselves. Of another Bignonia, he says that the terminal point of the tendril exhibits an odd habit, which in an animal would be called an instinct, for it continually searches for any little dark hole in which to insert itself. The same tendril would frequently withdraw from one hole and insert its point in another. In like manner, spirally twining plants seem to search for proper supports, rejecting those not suitable.

Speaking of phenomena of this sort, Dr. Lindsay makes this strong remark: "In carnivorous and climbing plants there is a choice or alternative between action and inaction, acceptance or refusal; and the choice made is not always judicious. There may be an error, and the error may be corrected; but in order to such correction, there must surely be some kind of consciousness or perception that a mistake has been committed; an exercise of will in making further efforts at success, and a knowledge of means to an end, with their proper adaptation or application."

According to Professor Laycock, organic memory is common to both animals and plants, and certain *lianas* seem to exhibit it in a marked degree in their antipathy to certain trees. The botanist Brown has remarked that the trees which the *lianas* refuse to coil around are physically incapable of supporting the climbers.

In many cases, observers are, no doubt, self-deceived, and mistake a mechanical and wholly unconscious mimicry of intelligent action for an actual exhibition of intelligence; still, such men as Dr. Gray and Mr. Darwin are not apt to be deluded by mimicry or figures of speech; and however much it may run counter to popular notions of what is proper to plant life, the hypothesis that intelligence does not end with animal life seems by no means inconsistent with a multitude of trustworthy observations.

AGRICULTURAL HINTS.

[The mind is the man. Farming, in the highest sense, is not simply doing the hard work necessary. This can be done by muscle when directed by brains. The true farmer is he who can plan, direct, and control skillfully.]

As this department is one which should contain the most recent gleanings of wisdom and experience, our readers and friends in the rural districts are invited to send us any items of value to agriculturists in general, and which should have a wide circulation. Due credit will, in every case, be given to the contributor.

An Idea for the Housekeeper.—Put into a cup of common alcohol, such as is used for spirit lamps, as much gum camphor as it will absorb, and wash any part of the house or beds that has been infested with bugs. It will kill the bugs and destroy the vitality of the eggs if every spot where they have been concealed is thoroughly saturated with this mixture.

A Simple Weather Sign.—If you don't happen to have a barometer about the house, watch your grass clothes-line stretched across the yard. Whenever the sun shines and the air is dry the line will slacken and hang down, but if there is moisture in the atmosphere, it will contract and tighten up until it will sound like a drum if struck.

Agricultural Humbugs.—An exchange waxes strong on this point: "If the money which is annually lost by farmers upon various kinds of humbugs which come in their way could all be exhibited in one gross sum, its total would, no doubt, surprise us all. A party advertises seed-corn which

will certainly yield one hundred and twenty-four bushels of shelled corn per acre. Plenty of buyers are found at an exorbitant price, who fail to think that this yield, if produced at all, was only obtained from very rich land, at the expense of manure and labor, often supplemented by sharp arithmetical measurement, and that this seed is no more likely, under any circumstances, to produce a larger crop than other sorts in the neighborhood. Wheat, from the crop of an Oregon wild goose, which will certainly yield fifty bushels per acre, finds buyers (or at least, we may judge so by its being extensively advertised) at fabulous prices. Oregon wheat land is noted for its immense crops, but seed from these fifty-bushel crops will not produce as much per acre *here* as our own common seed. In time, public opinion will set this matter right; but, meanwhile, much hard-earned money will be lost by men who ought to know better. A good standing rule to observe in all such cases is to let them alone. An old farmer once advised his son to beware of "all new things, for there can be nothing new and good at the same time."

American Potatoes in England.—It is said that the English people go into ecstasies over some of the American varieties of potatoes; and we do not wonder at it, if they have nothing better of the kind than those we have seen from abroad. At the saloons of our city, imported French potatoes have been served to customers for several months past; and, while some of them are dry and mealy, they are mainly of a yellowish color and rank odor. A few days since, we saw a few sacks of "genuine Irish potatoes." They were coarse, black-looking bulbs, thick-skinned and deep-eyed, and the reverse of attractive.

Manurial Value of some Waste Products.—Professor Storer, of the Bussey Institution, has made some valuable investigations in regard to the manurial value of leather chips, roasted and raw, and he has also bestowed considerable research upon spent dry woods and tan, with the view to ascertaining their value by analytical results and practical experiment in the field. A popular error has long prevailed that the spent sumac and logwood from the dye-houses possess value as plant food, and notwithstanding we have on several public occasions denounced its employment, it is still sold to farmers, and by them applied to their fields. Leather chips have been less in favor; still, they have in the raw state been considerably used in those sections where the shoe-manufacturing interests prevail, which industry gives rise to an abundance of the chips.

The extended researches made go to prove conclusively that leather, in either the raw or the roasted condition, has no good influence upon plants, but rather the reverse. By roasting, a trifling amount of the nitrogenous principle is given up in the soil but not enough to render the material practically of any value. Spent sumac, logwood, oak, and hemlock barks are not only perfectly worthless as fertilizing agents, but they are positively deleterious. The only value they possess upon land is as a mulching to be placed around trees and shrubs to protect them from drought It may not be advisable to use them freely for such purposes, as the acid elements they contain may injure delicate plants. It is better for farmers to let these waste substances alone; they are not worth their attention.—*Journal of Chemistry.*

Take Care of the Toad.—The *Ohio Farmer* well remarks that the number of insects that a toad will eat is almost incredible. A few of them in a garden will keep it well rid of bugs, plant-lice, etc. They generally spend the day in some dark, secluded spot—often a hole under a sod or clod or the side of a rock, and in the evening they come out and hop about in search of a supper of live insects. They may be induced to take up their residence in the garden by confining them for two or three days to the place, when they will become quite well contented. A board laid about two inches from the ground is just the kind of a hiding-place that suits them. They are long-lived, being often known from twelve to sixteen years old, and it is said one lived to be thirty-six years old. On account of their propensity for destroying insects, toads should be encouraged to become permanent residents of our fields and gardens.

An Item in Grape Culture.—Here we would mention a fact which has come within our observation and experience, which, if generally true, is of some importance. It is this: That the third fruit-bud from the base of the past year's cane throws out larger and better developed bunches of grapes than either the first or second. The grapes from these buds seem also better flavored, and generally superior to those on the first and second. In accordance with this hint, we have adopted the plan of cutting the cane at such length as to leave the third bud, generally, and sometimes the fourth, when a good strong one, and then rubbing off the first and second buds, and leaving the third and fourth for fruit.

The number of fruit-buds left on any vine must depend on the age and strength of the vine. If the vines are strong and vigorous at three years, from two to three bunches of grapes may be allowed to mature on each, without injury. The next year the number may be increased, and so on, increasing the quantity of fruit with the age of the vine.—*Pacific Rural Press.*

If milk be introduced into bottles, well corked, and put into a pan of cold water, and gradually raised to the boiling point, and after being allowed to cool, be taken out and put in a cool place, the milk may be kept perfectly sweet for half a year.



MRS. C. FOWLER WELLS, *Proprietor.*
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NATIONAL REFLECTIONS.

WITH the recurrence of July the patriotic sentiment of the American experiences an awakening. Especially is this the case in late years on account of the centennial anniversaries of the deeds of prowess and glory which illuminate the record of our country's early life. Last year we celebrated in a manner fit to "go down the ages" the Centennial of our nation, and six years more remain, each of which will probably be made interesting because of its Revolutionary memories. The operations of the colonial forces against the armies of England were attended mainly with disaster in 1777, so that had it not been for the victory at Bennington in August, and the surrender of Burgoyne at Saratoga in October, the prospects of the patriots would have been shrouded in the deepest gloom. Our friends of Bennington and of Saratoga may hail the days which commemorate these important successes with a very earnest enthusiasm, for they, like the battles of Trenton and Princeton, which were fought in the winter previous, awakened the spirit of hope when despair had almost settled upon the American heart. In June, 1778, occurred the evacuation of Philadelphia by Gen. Clinton with the British army under his command, and in the same month Washington fought the battle of Monmouth, which hastened Clinton's retreat to New York. In 1779 occurred the brilliant capture of Stony Point, on the Hudson River, by Gen. Wayne, and the evacuation of Rhode Island by the British. The year 1780 was occupied mainly with indecisive operations in the Southern States, the Carolinas particularly, where the enemy had very successfully intrenched themselves. North Carolina can, however, find some material for congratulation in the affair at King's Mountain, where a regiment of militia utterly routed a detachment of Cornwallis' army, although of greatly superior numbers.

Early in 1781 Gen. Morgan won the brilliant victory at Cowpens, South Carolina. In September the battle of Eutaw Springs took place, which had a decisive influence upon the fortunes of the colonies in the South, and being followed soon after by the surrender of Cornwallis at Yorktown, Va., the success of the American arms was made certain. Then in 1782 we have the evacuations of Savannah and Charleston by the foe, and in 1783 the formal treaty of peace and recognition of American independence by Great Britain, which was followed by the withdrawal of the last of her army from New York in November of the same year.

Who that looks over this broad and beautiful land can wonder that England relinquished her claims to it only after a long struggle and a costly expenditure of men and money? There were wise men among her counselors, who foresaw the growth and power of the American colonies—they certainly did not imagine the full extent of our development—and could not entertain the idea of losing so important a part of

their Empire. But the war once begun, developed the strength of the infant nation, and proved, in accordance with Lord Chatham's declaration in Parliament, the invincibility of America.

We would ask our orators and public men to whom it is given to perform leading parts in these centennial celebrations and patriotic demonstrations, to be bold in indicating the weaknesses in our public polity and social order, and to exercise a true wisdom in giving counsel for the correction of abuses in legislation and for the establishment of a true fraternity and loyalty throughout the land.

Let the lessons of our past instruct us in the present. Let all the people in all sections co-operate for the general welfare, forbearing strifes, factions, animosities, and rancor, which, persisted in, tend to undermine the solidest fabric of nationality. The various elements in our population may, under careful guidance, be made conducive to a powerful unity, which, like conglomerate rock, may resist the wear of ages.

Let there be among us as individual citizens less of selfishness, less of the desire for personal exaltation, and more of generosity and the disposition to help the weak and educate the ignorant, and we shall make a decided step toward realizing true liberty and union.

SPRING-TIME INDISCRETIONS.

IT is estimated that one-fifth more persons die in the spring months than in the autumn. Much of this excessive mortality is due to the maladies which are still deemed by the mass of society incident to the change in weather conditions, whereas they are induced mainly by dietetic improprieties which have overloaded the blood with carbonaceous matter, and so clogged the excretory organism that with the incoming of a mild season and the disappearance of the bracing, stimulating cold weather, bilious disorder indicates the general systemic derangement. Of these particular mention has been made in other parts of this magazine now and then, and it is unnecessary to repeat them here. Our design just now is to allude to one or two causes of spring illness which are not minor in the number and variety of their melancholy consequences. With the first warm days of April many people, young and old, in the different walks of society throw aside their heavy great-coats, wraps, or cloaks, on the plea that they are "too hot," and go to their places of business, or to visit or shop, without them. We have met men in the early morning on their way to their offices or stores apparently rejoicing in their emancipation from the heavy "beaver" or "melton," little thinking that its need would be felt as they returned home in the chilly evening air, and still less realizing that this premature laying aside of a thick outer-garment is the cause of an incalculable number of pneumonias and "colds."

We have found it a good rule to continue wearing our winter overcoat until April is well advanced. After that, and until June, to wear a light or spring overcoat. As for exchanging our thick under-garments for thin ones we have not trusted to the almanac as a guide in the uncertain latitude of New York, but have always waited until summer has established her decided reign.

We know of people who have been in the habit of dispensing with fires made for warming the house at a certain time, say the 15th of April or the 1st of May, and as a consequence, when a cold storm occurs, or the winds from the ice- and snow-bound north-west prevail, shiver in their sitting-rooms whole days, risking to themselves and children severe attacks of disease. They

who are actively employed in the kitchen or out of doors may feel warm and comfortable enough, but they whose avocations require them to sit in a room without a fire soon become acquainted with the dispiriting influence of an atmosphere a few degrees below 68° Fah., which is generally considered the normal standard of human comfort. One hygienic authority declares that "furnaces should not be removed, nor fire-places and grates cleaned for the summer, until the first of June; for a brisk fire in the grate is sometimes very comfortable in the last week in May."

Houses which are located on low ground which is wet or insufficiently drained, are subject to dampness, which renders living in them unhealthful at any season without such means as an open fire. We have known people living in old-fashioned stone-houses, who were in the habit of making a fire in the grate of their sitting-room every evening, as a precaution against dampness. Modern houses, with their large and numerous windows and open walls and high cellars, are vastly superior to the old style in the important respects of dryness and ventilation, but care is necessary in the management of the heating, drainage, and ventilation of the best-planned residence if those insidious foes to family health, miasmatic emanations, would be altogether avoided.

THE CONTRAST.

ON the 15th of May last, the city of New York was the theater of two events, each of which claimed the popular attention, and preferred special reasons for being considered important in their several ways. For one there had been a long series of preparations. All classes had been called upon to contribute toward rendering it elaborate in display, and multiplex in interest and variety. It was designed at first, we were told, to subserve the purposes of popular jollification and of industrial illustration—the grotesque and funny were to be coupled with the practical and useful. For weeks the newspapers discoursed upon its characteristics, even promising great developments. Of course we are understood to refer to the so-called Carnival.

The other event had been given the merest notice previously. A few persons of culture had united to give expression to their admiration and respect for a man of genius and manliness, by erecting his statue in Central Park. The bronze completed, a brief item in the newspapers of the 14th, announced that the statue of Fitz-Greene Halleck would be unveiled the following day, with appropriate ceremonies, and that President Hayes, then visiting New York, had been invited to be present.

The character of the "Carnival" is known to the reader through newspaper comment. Early in the day, crowds assembled in Broadway, the main route of the procession, and waited patiently for hours, to be disappointed by a thin display of tinsel and vulgar costume, in which the equipage and votaries of the liquor trade greatly predominated. In fine, the impression derived by the intelligent spectator was, that the affair had been gotten up for the glorification of lager, and to feed the tills of the dram-shops.

But away up-town that afternoon, in the quiet, leafy mall of our splendid Park, occurred that other event which testified in terms of emphasis that a good proportion of our citizens esteemed solid worth above glitter and tinsel, for notwithstanding the little publicity which had been given to the affair, a great assemblage of men and women was there to welcome the new Chief Executive, and to give that grateful encourage-

ment to the special ceremonies of the occasion, found only in numbers. We were there, and can testify to the orderly and intelligent character of the throng. President Hayes appeared well pleased with his reception, and with the exercises, and gracefully performed the part assigned to him. The occasion proved a rare one for an out-of-door celebration, because of the many eminent men of national reputation in science, art, letters, and politics, who were drawn together, and the thousands who thronged the lawns and approaches to the site of the new statue, had the unusual opportunity to see these representatives of our country's best minds face to face. They returned to their homes, gratified beyond their expectation, and feeling that they had acquired something of moral value, something for their mental growth. While thousands of those who had spent hours of the day and of the night on the ridiculous buffooneries of the Carnival, wended their way homeward, tired and disappointed, feeling that they had lost precious time, and had received impressions, which, if tolerated, would lower and degrade their moral tone. FAILURE was the verdict of the public on the "Carnival." SUCCESS, the hearty and unanimous opinion of the multitude that had assisted in the commemoration of the poet Halleck.

AN EDITORIAL EXPOSTULATION.

ALMOST every day's mail brings to this office a package of manuscript from some young or inexperienced hand which the editor is requested, first, to examine with reference to its appropriateness for publication. So far, well. But there is a second request which is not so well in the editor's opinion, and which is usually couched in language like this: "If you do not deem the article fit for publication, will you be kind enough to point out its defects, and give me some advice, as I am," etc. Now, many of the writers of such a request expect a reply which shall pretty much cover the field of their defective authorship, and set them in the way of the much desired success; and if they do not receive it within a week or two, are inclined to berate the editor for want of sympathy, coldness, or something worse, and perhaps go to the length of talking down the quality of the magazine which, before, they had characterized with energy, as "one of the *best* published."

We know the tenderness of the youthful aspirant for literary honor, and how keenly the shaft of disappointment wounds, and are ready to make a liberal allowance for the indiscretions which may be committed under such a stimulus, however unreasonable may be its relation to us. The reader will affirm the statement that the editor of a periodical is not constituted by virtue of his editorship, the critic and reviewer whose services are at everybody's command *for the asking*, any more than are the services of the lawyer or physician. But most literary men, especially they who are connected with the management of weekly and monthly publications, frequently and generously accord hints and advice to inexperienced wielders of the pen, and this fact has had its influence, doubtless, in circulating the notion that an author's time and talent are a sort of public commodity.

It has always been our practice to treat all applications for advice and criticism with as much liberality as our duties would permit. Like most of our contemporaries of the "sanctum," our time is pretty well filled up by the regular work of reading and preparing matter for the press, and in the correspondence and almost endless detail of the editorial function, yet we are always ready to do what we can, and drop a word

or two for the encouragement of an earnest, striving soul.

We believe in helping one another—THE PHRENOLOGICAL JOURNAL has been conducted for twenty years or more on that grand principle, and its record as a helper if it could be declared to the world would be a proud one—but, friends, do not expect too much of us, for in the language of Dr. Holland, "eyes wear out, work presses, cares are many, every day brings its fatigue, and every evening its demand for rest."

AN EXAMPLE IN THE RIGHT PLACE.

WE shall have no reference to political questions or parties in what we are about to say, and we would not make any invidious comparisons. Let the reader comment or conclude as he pleases. Not long since a communication appeared in the *New York Tribune*, in which the following statement occurred:

"Alert, youthful as he was twenty-five years ago, he is a forcible example of the value of an abstemious life. He was never in a bar-room, it is said, in all his years. He is an utter stranger to tobacco in all its forms. Nobody ever saw him take a drink of liquor, or smoke a cigar, or chew tobacco."

The reference is to President Hayes, and the author of the statement asserted an acquaintance of twenty-two years' duration with the subject of it.

It is certainly a most extraordinary series of declarations concerning a man prominent in public life and politics for nearly half his fifty-five years. The list of American Presidents contains many names of pure and lofty manhood—characters that were examples of integrity and sobriety—but we do not remember one of whom it could be said that "he was never in a bar-room in all his years." Some might protest against this severe propriety of conduct as extravagant; but, for our own part, we can not help according it our hearty respect. What is the "bar-room" but the place where liquors of different grades of quality and intoxicating strength are sold by the glass? What is it, whether in the palatial hotel or in the corner grocery, but the rendezvous of the intemperate and impure? What are its influences? No one will claim anything elevating or ennobling in its associations and culture. The man who disclaims any concord with such a place is entitled to our esteem, and it is a matter of great satisfaction to know that our President takes so high a view of manly conduct.

As for the other items—his repugnance for tobacco and the use of liquor as a beverage—they are correlative with the one just noticed. We are very glad of this exhibit of the character and habits of our President for the sake of our youth, who look for their models of daily conduct to those who occupy the chief positions in government and society, and for the sake of the country at large, which needs the moral restraint which a temperate, upright, and healthy chief magistrate can not help exercising.

A GREAT MONOPOLY DEAD.

SEWING-MACHINES can now be purchased at prices approximating fairness. The patents which exacted large royalties from manufacturers have expired, and the field is open for free competition. The public will rejoice at the breaking down of the great combination which has so long ruled the sewing-machine trade and procured extortionate profits for the manufacturer and dealer. The magnitude of these profits is evident by the fall in prices which ensued immediately upon the expira-

tion of the last important or "foundation" patent, and which was equivalent to forty, in some cases fifty, per cent. on the old rates; so that a first-class machine which formerly commanded sixty dollars can now be purchased for thirty. Although appreciative of the great value of this wonderful device in our industrial life, we could not extenuate the course which compelled rich and poor to pay a price which bore an unfair relation to the cost of production. The fact that an article is of important use is not a valid reason that they to whom it is offered for sale should be compelled to pay several times its cost of manufacture. The management of the sewing-machine trade appears the more reprehensible because the high prices were maintained in great part for the benefit of agents and brokers, a discount of forty or fifty per cent. being given them by some manufacturers for selling machines. Efforts were made to obtain extensions of the old patents, but the public spirit and good sense of our Washington law-makers were too strong for the lobbyists, rejecting their importunity and winning the approval of the people at large.

Our Mentorial Bureau.

[In this Department will be noticed such matters as are of interest to correspondents and to the general reader. Contributions for "What They Say" should be brief, pointed, and creamy, to secure publication.]

To Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY *will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.*

IF AN INQUIRY FAIL TO RECEIVE ATTENTION *within two months, the correspondent should repeat it; if not then published, the inquirer may conclude that an answer is withheld, for good reasons, by the editor.*

WE CANNOT UNDERTAKE TO RETURN UNAVAILABLE *contributions unless the necessary postage is provided by the writers. In all cases, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage—stamps being preferred. Anonymous letters will not be considered.*

THE SQUIRREL AND THE MAN AGAIN.—Suppose a squirrel is on a tree and a man is on the opposite side of the tree—as the man passes around the tree the squirrel keeps on the side opposite to the man. Does the man pass around the squirrel?

Ans.—Yes! Suppose a horse be hitched to a cider-mill or brick-mill sweep. The opposite end of the sweep goes around the mill, and keeps opposite to the horse, but the track of the horse is outside of the entire mill, and of course he goes around it, just as much as if he travelled around without being hitched to the mill.

THE ARMLESS AND LEGLESS M. P.—In reply to a correspondent we would say that the armless and legless member of the British House of Commons is Mr. Irving, an Irish gentleman of considerable prominence. Four or five years since we published a sketch of him which was sent us from London by the late Mrs. Mowatt-Ritchie. Although born without legs or arms, he rides, drives, and does about all that most men do with their hands, while intellectually he has few superiors.

DENYING FACTS.—The anatomists and physiologists who are not conversant with the principles of Phrenology are very apt to make mistakes in attempted discussions of them. Not long ago, Professor Ferrier introduced to the British Society the results of his experiments in exciting the brains of animals by means of the Galvanic Battery. And then Dr. W. B. Carpenter was one of the first to say that these things confirmed some of the claims of the Phrenologists, and it was necessary to review his attitude toward our science. The facts of Phrenology are attested by observation. By the methods of inductive philosophy we place those facts against a world of denial. If you want the data of comparative anatomy look around you; consider the nervous structure of beast and bird, and compare them with man. A celebrated Physiologist of France devoted seven years to special investi

gations in comparative anatomy for the very purpose, as he avowed, of refuting the doctrines of Gall; but after examining something like three thousand subjects, he was compelled to admit that the testimony of nature was overwhelmingly in favor of Gall and Spurzheim. It would be well for scientific objectors to Phrenology to read Vimont's magnificent treatise—we have lately received a fine copy of it from Paris. Then as regards embryonic developments Phrenology has the objector there. All we ask is that you will study the gradual accretion of nervous matter in the germ, and see how part is related to part, how organ is built upon organ, how man is what he is by reason of additional departments of nervous function.

HEALTH LIFT—SPECIAL AFFECTION.—G. A. C.—The "health lift," under proper direction, is a good method of exercise in certain maladies. In cases of general debility, weak lungs, nervous irritation, dyspepsia, the "health lift" has been found capable of ministering benefit to the patient. Most people are indiscreet, however, in the use of the "health lift," if they attempt to practice alone. We think that no one should operate it without having taken lessons from some skillful teacher, or a physician who is thoroughly conversant with it. In local troubles, like uterine displacements, supporters are frequently beneficial; so too when the abdomen is in a relaxed or pendulous condition, owing to the weakness of the muscles; or when it is excessively fat. Such conditions intimate, indeed, the need of artificial support. Supporters like trusses should be adapted to the wearer; they can be obtained of surgical apparatus manufacturers; we frequently have occasion to supply them.

BATHING.—For persons in moderate health we deem the sponge bath as good as any, those only in robust condition should attempt the plunge. A quick sponge bath in a warm room, followed with a brisk hand-rubbing will be found very beneficial in toning up the system. An apparatus for bathing, which is admirably fitted for the use of those who have no special conveniences at home, can be obtained for twenty dollars.

SPIRITUALITY.—We think that the use of this organ in the direction mentioned by the inquirer, to wit, for communicating with the spirit world, is an abnormal adaptation of its functions. We hold that the influence of the religious faculties is one of an interior mental character, according to its degree purifying and ennobling the man, impressing him with deeper convictions of the reality of God and His providential relations to the world.

STORY MEMORY.—Z. T. L.—One who has special capability in memorizing stories and relating them is largely developed in the perceptive faculties of the intellect, Individuality and Eventuality, particularly, being large. There is also a good degree of Spirituality, Ideality Constructiveness, and Language.

DR. WINSHIP.—This celebrated "strong" man owed his death to the special cultivation of his muscles at the expense of other parts of the body. The muscles of his shoulders and the chest were greatly enlarged by his efforts to attain his Samsonian might, and the effect of the unnatural strain upon them was naturally a weakness in the action of the heart, possibly accompanied with an aneurismal condition.

SLEEP.—Sleep considered as the effect of weariness and the process for replenishing the nervous system with vigor can scarcely enter into the vocabulary of true faculties. The organs of the mind require sleep, as parts of the nervous system; just as the muscles when weary demand rest. The disposition to slumber, repose, in individuals is dependent upon their temperamental constitution and habits. A lethargic nature slumbers more than one that is active and lively. A man with a marked nervous temperament requires comparatively little sleep, for the reason that during his sleep the process of recuperation go on very rapidly; men with a predominance of the motive temperament require more sleep than those with a predominance of the nervous, because their circulation is slower and less thorough, and consequently the repair of the systemic waste is slower. Eating and drinking may be looked upon as the external process of alimentation, and therefore subservient to the mental organs which relate specifically to the economy of nutrition. We distinguish between Alimentiveness and the mere exercise of eating, as the organ is a part of the brain, and exercises a monitorial function in what may be termed the culinary department of human life.

SABBATH DAY.—The observance of the Sabbath was changed from the seventh to the first day of the week in Apostolic times. By reference to the New Testament, you will find that the disciples were accustomed to meet together on the first day of the week; and their example has been followed by the Christian world very largely. There are a few societies or sects who cling to the Mosaic or Hebrew idea of the seventh day for worship.

ADDRESS WANTED,—If J. M., of Worcester, Mass., will give a P. O. address for a letter, one will be sent.

What They Say.

WOMAN AND FINANCE.—In looking over the history of the past, we find many daring feats and grand exploits planned and executed by woman. Martha Washington and Mrs. John Adams, and many others, were called good financiers; and we read in history that "in the year 1705 Thomas Chalkley, a Quaker preacher, with other Friends, paid a religious visit to the Senecas and other Indians living about the waters of the Susquehanna. They were received with cordiality, particularly by a woman who was the chief speaker, and who was indulged in this because she was considered smarter than the men. She was also their Empress."

Woman has controlled armies and moved nations, and if we come down to our own civil war, we find many who promoted measures by which hundreds of thousands of dollars were placed in the hands of those who carried on the work of the "Sanitary Commission." Did any one think then of woman's financial status amid the roar of battle? In a boarding-school we were once familiar with, finding the financial part running behind, and being anxious for the life of the institution, the Principal, a smart, active woman, took all upon herself; went or sent to New York, purchased all pertaining to the kitchen at wholesale rates, and soon brought matters back to a solid basis. She had the supervision of the whole mental, moral, and physical welfare of the school besides, and was engaged in hearing recitations every hour but two during the day. For all this mental and physical labor, she was paid five hundred dollars and her board in the institution. A man would have had one thousand dollars or more, beside one or two assistants. In a few years she left. A man was hired to carry on the kitchen, distinct from the school, but was soon dismissed, because affairs were again running behind, and the discovery had also been made that he had "feathered his own nest." We do not know what salary was given him, but will warrant it exceeded that of the successful lady teacher. We have known instances where a family's honor and financial credit trailed in the dust while controlled by the husband, but when some event—dishonesty or death, perhaps—removed him, the wife rose nobly to the position, and in spite of all restrictions of sex brought up her little family, and sent it into the world well-cultured, mentally and morally, and all without creating at the end a financial crisis.

Woman is accused of extravagance. Admit it, and what would be the sure and only cure? We answer, give her a wider field of action, that she may have something better to think of. But is *she* alone extravagant? Are men *always* economical? Look at the millions that are yearly expended by them on fine mansions, public edifices, and in the furnishing and re-furnishing of business offices. Forty thousand dollars were expended lately in a certain State for furnishing two legislative halls—the curtains to each window costing seven hundred dollars. It costs, by printed reports, fifty thousand dollars to keep the Treasury building at Washington clean, and we know a young man who went there a few years ago and was paid a salary of twelve hundred dollars for keeping the windows of a certain room clean and watering the plants therein. But then we know men are such orderly beings, and so dislike to mix things, that there must be help at every post, no matter whether the whole time of each helper be consumed or not. Add to this the untold millions that are yearly chewed and smoked and drank up, with no possible result but disease and death.

Who thinks it improves or beautifies a human being to chew the cud or to have a pipe or cigar between his lips, or the wine cup in his hands? Were it not for these extravagances, our sons and daughters might be better educated, our schools and colleges better endowed, higher standards and nobler examples of moral and physical being be everywhere seen. But one will say, "I have none of these habits." Very true, and we thank God for the few men, noble and true, who have not made themselves brutes.

A strong temperance woman and a worker said to me the other day: "I have worked in the cause long enough to become fully aware that the reason why woman can do so little is because she can not control money. It is in the hands of husbands, and she, having no legal right to it, can only get a little dealt out to her now and then." Those of us who have ever circulated a subscription for some benevolent purpose, have many a time seen the hearts of noble women pained by their restricted purse. We heard Miss Livermore once say, in her lecture on "Superfluous Women," "Any wife who bears her own reasonable share in the home duties (and by this I do not mean those who are at once housekeeper, seamstress, kitchen-maid, and nurse, for that is too much for any *one* woman), earns her board and clothes, and has a right to them, and a good many dollars beside, in a year, else she is not fit to live with." Man could not and would not live thus restricted; secession would be a reasonable course, according to his opinion.

We would say, then, that woman is weak and inefficient, because both custom and law have helped to make her so. But now and then we find a weak, inefficient brother, and what excuse exists for him? Every woman, in whatever sphere she may be working (and let ability al-

ways govern her there, not anybody's preconceived notions), should have her fairly-earned share in the profits. Servility in the home, or anywhere else, is the product neither of justice nor love, and does not elevate or ennoble either man or woman. One half of the human race can not build upward at the expense of the other half. Make woman, then, a free and independent being; open all the avenues for her advancement, and trust the issue, as you did with yourselves one hundred years ago. It is for none to say what woman can or can not do. When our fathers battled for their freedom, did they foresee the vast amount of wealth and power opening before them? By no means. They fought for their own God-given right. But when we see our Florence Nightingale, Mary Somerville, Charlotte Cushman, Maria Mitchel, Mary A. Livermore, Mrs. Howe, Lucy Stone, and hosts of others, we lose ourselves in admiration at the accomplishment of so much with woman's fettered chances. On the other hand, we also wonder that not more has been accomplished by men, as they have had it their own way for a century, with no fetters, unless self-imposed.

Woman can be womanly wherever she is, whether behind the counter or the plow, in the pulpit or the home. There is a true womanly grace that goes with a noble woman everywhere. Only by sustaining this quality can she elevate public life. What a picture it now presents to us—its garments all tattered and soiled and stained. How can our brothers look us in the face and refuse our aid, with the terrible disclosures this closing century has brought to light, unless it is for shame they refuse, knowing we have to go down into the depths if we would help them.

The brothers of the Grange have wisely and generously allowed women liberty while there. But we ask it in our homes, on the street, and everywhere as well. We do not say woman would have made public affairs any better, but could she have made them worse?

H. E. WILLETT.

THE "CIRCULATING MEDIUM."—It is in the power of every person to produce some thing; and it is unchecked, free production and transmission that is wanted, not more gold. The only possible way that more gold could benefit mankind would be to have it found in quantities (opposed by both science and policy), to make it as cheap as iron, to break the iron rule of those who now check production and transportation by holding every other interest in tribute to the monopolists of that metal. If all were allowed to produce whatever of value they choose, whether it should be wheat or shoes, flowers, statuary, or ornaments, iron, silver, or gold, food, clothing, or implements, whichsoever the nature of their surroundings admitted, and do so untrammelled, receiving therefor (when stored in public warehouses) a certificate of its value (measured by a universal standard, made of some substance which is in itself of no intrinsic value, except as a measure of values), to be used as a circulating medium, this kind of money would relieve oppression and stagnation at once and everywhere, making universal plenty. To have this, there is no need of finding and coining the so-called precious metals, which are always difficult, laborious, and restricted by their nature and surroundings. Other things, as wheat, cotton, or iron, are really of more intrinsic value, and would be of far greater legitimate consequence and value, if allowed their just consideration, than either gold, silver, or diamonds. Of what value, besides an imaginary one, is the golden pavement of a New Jerusalem, compared with iron, Russ, or asphaltum, articles as common and cheap as clay in some places, yet articles of really more utility and value than the "precious" gold. Whisper it not in Gath, tell it not in Judea, that there are a thousand things that are of more value than gold; for upon the day thou tellest thereof, the name of master and servant must be abandoned, and some new and disgusting nomenclature adopted; for no one will bow down to us and obey our slightest behests, as now, and all will be equal, each having to serve himself or go unserved. No! Stop!! There is a coin that can be used, a coin of untold value. We will endeavor to describe it. A Nevada judge was lost in the mountains of Toyabe, and wandered for days without food and became delirious. In this condition he was found by a lowly, despised squaw; all her efforts were expended in endeavors to lead him in the direction of his home, to food and water; but in his delirium he struggled to go in the wrong direction, to the desert again. The wretched female savage ran miles for help to bring this human being succor. When she found it and returned, the Judge had wandered miles into the desert, and had sunk upon the sand and expired. Eventually his remains were recovered by his wife and friends, together with his gold watch and valuables, that were upon his person. They were untouched by the wretches who found the man; but another thing was found in the possession of this squaw—the coin mentioned. This poor creature was the possessor of a coin that would beggar an A. T. Stewart or a Rothschild to purchase—the coin of *universal good will and brotherhood*. With this coin—when it becomes current—can be purchased all that the wants of mankind in their sorest need and distress, may require and which can not be obtained by the other currency suggested.

Los Angeles, Cal. F. M. SHAW.

INTELLECTUAL AND MORAL CULTURE.—The supposition is that the educated mind is an earnest in itself for ethical progress; and that vice and ignorance are usually classed in connection, and virtue with intelligence. But this is not altogether so. The mind ought to be scrupulously addressed in education; but moral improvement, aside at times from tuition, can not safely be dispensed with—for it is not the invariable fact. The records of history show us a Robespierre and a Bonaparte—monsters of sanguinary excesses, though on different fields, who were both, with hosts of other wicked characters, educated men! We can not judge exactly aright of mankind, neither devise wise expedients, by classifying people into two grades and condemning one, since honesty, truthfulness, and virtue exist in all conditions. Are the opulent and middle classes the *nonpareil?* Are the poor, often laboring in squalor—the ignorant from necessity, as is generally the case—the reprobate? This way of judging men, and in our republic, as in that of Rome, some way separating the community into "patricians" and "plebeians" is ominous of confusion, and loaded with a heavy weight of danger for the time when population fills the broad regions of the West, and its redundancy of inhabitants throws emigrants back upon the almost fossilized East. The forecast of sagacious statesmanship would consider this question early and provide in schools, academies, and universities for that moral training, with sedulous care, of all boys and girls, which, in its adequacy to any little perfection, would comprise the Golden Rule of Christ, and the righteousness and justice of loving neighbors and even enemies; for upon the principle of that rule hangs the vitality of liberty itself, which any philosopher can discover by ratiocinative analysis.

If we Americans desire liberty and union permanently—wish to avoid future conspiracies and shocks of war and a division of our confederacy into discordant, belligerent States, connected by no tangible link—we can not, timely wise, do better than to institute and introduce a better plan of moral instruction in the schools and by qualified teachers—for safety lies in that moralization of all classes of the people, irrespective of wealth or talent. This arrangement and operation of our schools ought never to be procrastinated. For in the life of nations it sometimes requires that a century *before* some design for future security should have been commenced. Had Las Casas in South America been withheld from suggesting the slave trade, two hundred years agone, the late civil war had not occurred. Had Greece in ancient times been docilely guided by the counsels of Socrates, she had been a model of mental and moral worth, the exemplar of nations, instead of such only in the fine arts and a dubious philosophy. F.

WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

THEY are never alone that are accompanied with noble thoughts.—SIR PHILIP SIDNEY.

No man can be provident of his time who is not provident in the choice of his company.

COURAGE, the commonest of the virtues, obtains more applause than discretion, the rarest of them.

CULTIVATE consideration for the feelings of other people, if you would never have your own injured.

IT is a maxim worthy of being written in letters of gold, that there is no method so certain of defeating the plots of wicked men against us as by acting uprightly.

SHE who does not make her family comfortable, will herself never be happy at home; and she who is not happy at home, will never be happy anywhere.—ADDISON.

HE who says education, says government; to teach is to reign; the human brain is a sort of terrible wax that takes the stamp of good or evil according to whether an ideal touches it or a claw seizes it.—VICTOR HUGO.

MAN is his own star, and the soul that can
Render an honest and a perfect man
Commands all light, all influence, all fate!
Nothing to him falls early, or too late.
Our acts our angels are, or good or ill,
Our fatal shadows that walk by us still.

THE older I grow—and I now stand upon the brink of eternity—the more comes back to me the sentence in the Catechism, which I learned when a child, and the fuller and deeper its meaning becomes: "What is the great end of man?" "To glorify God and to enjoy Him forever."—CARLYLE.

MIRTH.

"A little nonsense now and then
Is relished by the wisest men."

How to take life easy—be careless with petroleum.

SIXTY thousand Philadelphia families, it is said, will soon break up housekeeping and return the Centennial visits of their friends.

IT is related of Dr. Garth, in his last illness, when he saw his fellow-doctors consulting together at his bed-side, that he raised his head from his pillow and said, with a smile: "Dear gentlemen, let me die a natural death."

FOUR-YEAR-OLD to his mother holding the baby: "Say, mamma, say! Zat squaling 'ittle baby seems to sink 'ee's the only chile you got! I'd give him back agin!"

It was a New Jersey wife who said: "My dear, if you can't drink bad coffee without abusing me, how is it that you can drink bad whisky without abusing the bar-keeper?"

A stout German in the beer industry to an unprofitable customer: "Here, now, you took dose doors und valk owet mit your ears, eh? (He doesn't). "Heim, you don'd got out? Vell, you waits a minute und I gets a man dot vill!"

A pompous individual walked up to the bar of a sea-s de hotel, and, with considerable flourish, signed the book, and exclaimed: "I am Lieutenant-Governor of ——." "That don't make any difference," says the landlord; "you'll be treated just as well as the others."

A man in Nevada was boasting of the wonderful scent of his mastiff. He concluded his yarn with the triumphant query: "What d'ye think about that?" "Do you want to know what I think about it?" said one of the bystanders; "Well, think you'd better go and take a bath!"

Library.

In this department we give short reviews of such New Books *as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor us with their recent publications, especially those related in any way to mental or physiological science.*

Gospel Temperance. By Rev. J. M. Van Buren. 12mo, pp. 114. Price, 60 cents. New York: National Temperance Society and Publication House.

So important a topic should not be treated with an unlearned and careless pen, and we think that Mr. Van Buren has embodied in this compact volume the results of grave and lengthened study. Starting from the true significance of the word *engkrateia*, which is translated temperance, but which means far more, viz., having self-control, or being master of one's self, continent, he reasons toward the conclusion that this "temperance" intimates that degree of restraint which involves "total abstinence in regard to anything wrong in itself, or evil in its tendency." The baleful influence of intoxicating drink upon society furnishes those evidences with which his views are sustained. His logic is good in its conflict with the theological defenders of the practice of wine-drinking, and applies the lash of sarcasm sharply to their pleas, which are in so many cases a mere cloak for self-indulgence. The book is an argument which every "undecided" clergyman who loves the good of his parishioners should read thoughtfully.

The Application of Electricity as a Therapeutic Agent. By J. H. Rae, M.D. 12mo, cloth, pp. 131.

After devoting a few pages to the discussion of the production of electricity by mechanical agencies, and some remarks explanatory of the different forms or qualities of "currents," the author proceeds to formulate the methods in which electrical treatment is administered with the *superinduced* battery. The treatise is intended mainly for the use of physicians using the Homœopathic system, suggestions with reference to medical administration being also given.

In diagnosis the galvanic battery is of high value, readily, in the hands of the skillful operator, indicating the location of a disease, which without it might escape discovery. The author has introduced a new form of battery, which commends itself by the simplicity of its arrangement and by the power which may be developed in its application.

Chedayne of Kotono. A Story of the Early Days of the Republic. By Ausburn Towner. New York: Dodd, Mead & Company. 12mo, pp. 606. Fancy cloth, $1.50.

As might be expected from the title, the story is made up of characters mainly of the homely, frontier pattern, in the treatment of which the author pursues a direct course, the scenes and incidents permitting little room for dark and mysterious plots. In the first two or three chapters we are introduced to the persons whose shares in the narrative are among the largest. Benjamin Libback, a gossipping, good-natured, honest fellow, whose part in the war and affection for the half-wild life of the hunter rendered him more of the vagabond than a steady member of village society; Finis Dare, the daughter of a man who had borne a not inconspicuous part in the Revolutionary struggle, and whose beauty, youth, and intelligence are, of course, the object toward which much of manly consideration is directed; Watt Chedayne, the hero of the tale and the silent lover of Finis.

The plot appears to be the old conflict of power and wealth with poverty and worth. In other words, the rich and influential partners in a company organized for the purpose of settling a rich tract in Pennsylvania, endeavor by falsehood, threats, and persecution, and by suborning the arm of the law to oust their poor associates from participation in what promises to be a very profitable venture. The troublous times are favorable to wickedness of this sort. Many of the incidents are expressive of intense love and hatred, and some of the *denouements*, like that in which Vantwerp shoots "Big Mike," are very astonishing. But out of the troubles, sorrows, and mistakes, happiness at length emerge and the reader is surprised by the one termination that Chedayne loved Mrs. Dare, instead of the daughter Finis.

THE BREWER'S FORTUNE. By Mary Dwinell Chellis, author of "The Temperance Doctor," etc. 16mo, cloth, pp. 428. Price $1.50. New York: National Temperance Society and Publication House.

This author has given volume after volume of temperance stories, until her name, like that of the venerable Arthur, has become identified with the cause of virtue and decency. Mrs. Chellis improves by experience. "The Brewer's Fortune" is in many respects superior to her earlier volumes, and glows with earnest feeling. An old brewer is brought at the last to recognize the moral damage his enterprise has occasioned in society, and ceases to manufacture the degrading beverage. But with the suspension of the work arise social and industrial questions, particularly affecting the old hands of the brewery, and the bulk of the fortune achieved through the malt vats is applied to their employment in honorable callings and toward their redemption from the drinking habits they had formed while in the brewery.

THE COOKING MANUAL of Practical Directions for Economical Every-day Cookery. By Julia Corson, Superintendent of the New York Cooking School. New York: Dodd, Mead & Company.

In about 270 recipes Miss Corson covers the field of the average cuisine, and when her methods are compared with what have been so long fashionable, they certainly possess the merit of economy, and of a superior nutritive value. The suggestions given with regard to the selection of table supplies are brief and to the point; and the phraseology in general of the recipes is clear and intelligible—a fact which can be stated of very few "cookery books." The author has, of course, kept in the view what are regarded by society purveyors the best formulæ for furnishing the tables of the well-to-do, and has aimed to modify their expensiveness, so as to bring them within the reach of the housekeeper whose circumstances are but comfortable. She does not claim to be hygienic, so the items of pepper, mustard, vinegar, lard, garlic, oil, frequently occur. In Chapters X. and XI.—"Cheap Dishes without Meat"—occur a few excellent recipes for preparing cereals; but in XI. most of the dishes are really composed of flesh, from pork to tripe.

THE ANONYMOUS HYPOTHESIS OF CREATION. A Brief Review of the So-called Mosaic Account. By James J. Furniss. New York: Charles P. Somerby.

Within the compass of fifty-five pages the author presents an outline of the method usually pursued by those writers who dispute the divine authority of the Mosaic writings, and interpret in a very literal manner their profound declarations. We think that the writer is quite original in some of his conceptions. For instance, his consideration of verse 4 of Genesis i., which appears to us rather of the captious sort than serious reasoning. So, too, with regard to verses 6, 7, 8, his pleading smacks of the *ex parte* attorney. If what the archæologists teli us of the ancient Egyptians be true, they were no fools in the matter of natural science. And Moses, we are told, "was learned in all the wisdom of the Egyptians." The literalism of Mr. Furniss appears in every page, and we are ready to admit that if King James' very inaccurate rendering is always to be accepted literally, the case presented in the "Anonymous Hypothesis" is a very strong one.

REPORT OF PROGRESS in the Greene and Washington District of the Bituminous Coal-fields of Western Pennsylvania. By J. J. Stevenson. Illustrated with three Sections and two County Maps showing the calculated local depths of the Pittsburg and Waynesburg coal beds beneath the surface.

This bulky volume is an account of explorations and observations with reference to coal deposits, made in the course of the second geological survey of Pennsylvania. Professor Stevenson evinces his customary precision and close adherence to scientific method in detailing the results of the work performed under his own supervision. His analyses of the coal measures of the townships assigned for his investigation are given with particular application to their economic values, and have that unmistakable definiteness which mark the experienced and thorough observer.

PUBLICATIONS RECEIVED.

THE SEMI-TROPICAL. A monthly devoted to the agricultural and other interests of Florida, shows ability, taste, and energy in its management. Mr. Reed is certainly successful in making a very attractive magazine.

RAND'S NEW YORK CITY BUSINESS DIRECTORY for 1877 is a compact and neat 18mo volume, containing about four hundred pages. The publishers claim that no pains have been spared to make the work complete, the success of their experiment in the same line stimulating them to greater diligence to secure accuracy in the different specifications. A very large circulation of the Directory is already insured. Price, in paper, 75 cents; in cloth, $1.

PETTINGILL'S NEWSPAPER DIRECTORY and Advertiser's Hand-book for 1877: comprising a Complete List of the Newspapers and other periodicals published in the United States and British America. A compact and neatly printed octavo of 334 pages, with several fine portraits of leading New York newspaper men.

NEW YORK PROTESTANT EPISCOPAL CITY MISSION SOCIETY. The Growth of Charities in our Metropolitan City is the subject of a graphic sketch.

SCRIBNER'S MONTHLY for June. An admirable number, combining an unusual variety of interesting features.

VICK'S FLORAL GUIDE, No. 2, for 1877. In which some scientific notes are mingled with the horticultural advice.

THE CLOTHIER AND HATTER. A new trade weekly, has the appearance of good editorship and strong backing. May it prosper!

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The Domestic Practice of Hydropathy, with illustrations, by Edward Johnson, M.D. Published price $1.50, reduced to 80 cents.

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Bacon's Descriptive Hand-book of America. Published price $2.00, reduced to $1.00.

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Life and Public Services of Charles Sumner. By C. Edwards Lester. Published price $3.75, reduced to $2.25.

The Work of God in Great Britain by Messrs. Moody and Sankey, with portraits and biographical sketches. Published price $1.50, reduced to 90 cents.

Homes for All. The gravel wall and octagon mode of building. Published price $1.25, reduced to 75 cents.

The Life, Character, and Work of Rev. THOMAS H. STOCKTON. By Alexander Clark. Flexible cloth. Published at 50 cents, reduced to 25 cents.

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NUMBER 2.

THE PHRENOLOGICAL JOURNAL AND SCIENCE OF HEALTH



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HENRY CLAY.

LEAVES FROM AMERICAN HISTORY.

"I WOULD rather be right than be President." This was the reply of Henry Clay to a committee of his political friends, who said to him: "Mr. Clay, you *must* modify your views of certain questions of national policy, or you can not be nominated for the Presidency." It was a noble reply, and it will live to honor its author long after the words and acts of his successful rival have been forgotten. It has the ring of the pure gold, and deserves to rank with those maxims and sayings of classic literature and history that have served to crown with immortal fame the sages and patriots of Greece and Rome.

Henry Clay was a representative Ameri-

can, as a politician, a statesman, a patriot, a gentleman, an orator, a representative of whom his fellow-countrymen may well be proud. Born in 1777, the child of poverty and heir of privations, he proved the nobility of his blood by achieving a destiny of which the kingliest man might be proud. He was not a man of transcendent talent or marvelous genius. His gift of oratory was of a high order. He was the American Demosthenes, and his mind was eminently adapted to the comprehension of legal abstractions, and to the science of diplomacy; and in these, combined with his integrity of character and pleasing address, lay his power. And he was a power. From the day he entered the Senate of the nation, in 1806, to the day of his death, in 1852, he exerted an influence over the political destiny of this country, of which no other man of his time could boast. It was a peculiar influence, a pacific influence. In his public career he was peace-maker, a compromise man, delighting not in violence and strife, and deprecating war as the greatest of evils. His mission was to pour oil on the troubled waters. He was kindly-hearted as a general rule, and generous to a fault. Men of positive minds, such, for example, as Randolph and Calhoun, of the South, and Giddings and Garrison, of the North, could not understand or appreciate Henry Clay; hence both distrusted and despised his efforts to reconcile the irreconcilable. He was anti-slavery in sentiment, and a slaveholder in practice. Yet he was not inconsistent, save from their standpoint. He recognized slavery as an existent institution, protected by the articles of confederation and recognized by the Constitution of the United States. An institution which could not be abolished legally and arbitrarily without the consent of the parties most interested—the slaveholders—yet he recognized it as a political, social, and moral evil, which ought to be abolished, and which he believed would be at no distant day.

Henry Clay was the son of the Rev. John Clay, of Virginia, a Baptist clergyman. He was born on the 12th of April, 1777, on a farm, in a section of Hanover County, called the Slashes, and received the rudiments of a very common school education, in a country school kept by an old-fashioned Virginia schoolmaster, whose scholastic acquirements were bounded by reading, writing, and the simple rules of arithmetic. The father died when Henry was five years of age, leaving his family without property, save a few household effects. Young Clay improved what opportunities he had for education, and at the age of fifteen had the good fortune to secure a situation as copying clerk in the Court of Chancery at Richmond. While filling this position, he won the friendship of Judge Wythe, a distinguished lawyer, who had known and respected the young clerk's father. The patronage of this gentleman was of great service to Henry. Through it he was enabled to study law under the most favorable circumstances. He was admitted to the bar at the early age of twenty. He at once removed to Lexington, Kentucky, where he opened an office and entered upon a most successful career.

He was poor, and his education was by no means classical, nor was he a Chesterfield in social culture, but he was talented, handsome, genial, and dignified, and there was a natural grace of bearing that helped greatly to win respect and render him popular. He was admitted to the best society the village afforded—and Lexington, even at that early period, was not without her aristocracy, composed of some of the best families of Virginia and other Southern States.

Whatever may be said against the Kentucky aristocracy, there is this I wish to record in their favor: that, as a general rule, talent, honor, and integrity were respected by them, though joined with poverty. The fact that young Clay was poor—a fact which he made no effort to conceal—was no bar to his social recognition or advancement, and within two years after his advent in the incipient city, he married the reigning belle of the place, a daughter of Colonel Thomas Hart.

This event occurred in 1799, the year in which Kentucky adopted a State Constitution. Mr. Clay had distinguished himself in his own county by his Fourth of July

orations and his speeches in court. He now achieved a State fame by a series of well-written papers, and a number of able speeches in favor of the gradual emancipation of slavery. His plan was to make provision in the Constitution for the extinction of the institution by a system of graded emancipation. Thus early did he put himself on the record as an active anti-slavery man, and he never changed his views on that subject. He allied himself to the Republican party, of which Thomas Jefferson was the leader, and in 1804 he was elected to a seat in the State Legislature. Two years later he was chosen by that body to represent the State in the United States Senate. It was subsequently charged, by his political foes, that he lacked a few months of the constitutional age—thirty years—when he entered the Senate, and therefore he perjured himself to secure his seat. He served five years in the Senate, and in 1811 he was elected to a seat in the House, and was at once chosen Speaker of that body.

Mr. Clay actively supported the administration of James Madison, and advocated the justice and expediency of the war with Great Britain. He was in sympathy with the anti-bank policy of the Republican party, but he favored protection to American manufacturers from the start, and consistently through his whole public career. He was re-elected to Congress in 1813, and again chosen Speaker of the House, which position he resigned in January, 1814, to accept the appointment of Commissioner-Extraordinary to the Council of Ghent, where he had the honor of signing the Treaty of Peace between this country and England. On his return from Europe, in September, 1815, he was again elected to represent his district in Congress, and on taking his seat he was again chosen Speaker of the House. He was returned by his constituents in 1817, 1819, and 1821, and each time chosen as presiding officer, a very high recognition of his ability and integrity.

Mr. Clay's views underwent a change on the question of the United States Bank in 1816. He publicly announced this change, giving his reasons for it, and from this date, as long as this was a party question, he was in favor of a National Bank. He was now practically a Federalist, being in favor of a protective tariff and a national bank, the two principal things that the Democratic party was organized to oppose. Party lines were hardly so well defined then as subsequently, but Mr. Clay was understood to be a Federalist from this time, hence he could not be justly accused of bad faith in preferring Adams to Jackson for President, in 1824, a charge which was kept alive to his prejudice during his whole subsequent life.

The Missouri question, which had been giving all parties a great deal of premonitory trouble, culminated in 1821, on the occasion of that incipient State asking admission into the Union with a Constitution recognizing slavery. The advocates of slavery had felt confident of their power from the time of the purchase of Louisiana, in 1803, and they resolved to contest for recognition of their favorite institution in every State that should be organized within the boundaries of the Louisiana territory. The effect of this was to create a strong sentiment in the North in favor of limiting the encroachments of the slave power. Excitement ran high, and a dissolution of the Union was apparently imminent. Missouri was a portion of Louisiana, but she lay so far north that a large portion of the State was north of Kentucky, the most northern of all the Southern, or slave States, and was claimed with some show of reason and fairness by the friends of free soil The slave party held an advantage in the fact that the citizens of Missouri had adopted a slave Constitution, thus showing themselves in favor of the institution. And this Constitution they had adopted with the understanding that they were free to regulate their domestic matters in their own way, as the legal restrictions imposed upon the North-west territory by the ordinance of 1787 did not affect the territory comprised in the Louisiana purchase.

Mr. Clay prepared a bill providing for the admission of Missouri as a slave State, and restricting slavery thereafter to such territory as lay south of the parallel of thirty-six degrees and thirty minutes north lati-

tude. This bill expressly stated that north of said parallel slavery should never be allowed to go, but that in all territory then belonging to the United States, or which might thereafter be acquired south of said line, the people should be allowed to organize State constitutions and be admitted with or without slavery as they should choose. This bill met with favor from the moderate men of both sections, and was adopted; but it met with disfavor from the extremists of both. It passed into history under the title of the Missouri Compromise Bill. When we remember the status of public opinion on the slavery question at that period, we can but do Mr. Clay the justice to conclude that he regarded it in the light of a triumph for Freedom as well as for Union. This opinion is confirmed and justified by his opposition to the Annexation of Texas at a subsequent period, which opposition was based solely on the ground that it would increase the area of slave territory. He declared in 1844, when a candidate for President, that no earthly power should ever induce him to consent to the addition of one acre of slave territory to the United States. His defeat by Mr. Polk was due in large measure to that declaration—not because the people were in favor of slavery *per se*, but they were through national pride in favor of Annexation.

Mr. Clay was a candidate for President against Andrew Jackson, John Quincy Adams, and William H. Crawford, in 1824, receiving thirty-seven electoral votes. Jackson had a plurality, but not a majority of the votes, hence the choice of a President devolved upon the national House of Representatives. Adams was next to Jackson, and Crawford third in the contest before the people, but when it came to the House, Clay was found to hold the balance of power, and he gave his influence to Adams, who was elected. The partisan foes of Clay accused him of corruption in connection with this matter, but without sufficient ground, I think. There were really no political parties in this country at that time, the Federal party having given up the ghost some years before, and the Whig party not having been born, the Republicans had no opposition and could not therefore make a fight. With the people it was a question of men, with politicians a question of office, and with statesmen a question of measures. Mr. Clay and Mr. Adams were in agreement upon the chief measures of public policy, while Mr. Clay and General Jackson differed radically on several important points, notably the questions of a National Bank and a Protective Tariff. There was, I think, sufficient ground in this for Mr. Clay's action in the matter, and I am disposed to believe that he acted conscientiously in preferring Adams to Jackson.

It was unfortunate for his reputation that Mr. Adams should have made him Secretary of State, although a better selection could not have been made. The charge of having sold out to Adams for an office was made by John Randolph, in language characteristic of that eminent cynic, and Mr. Clay challenged him therefore to mortal combat. The meeting came off in April, 1826, when after exchanging pistol shots, a reconciliation was effected, by mutual friends. In the light of present civilization duelling is regarded as barbarous, but at that time it was regarded as the only honorable way to settle quarrels between gentlemen, and Mr. Clay could not pass this insult by, as one would now, without serious consequences to his reputation.

Mr. Clay was elected to the United States Senate in 1831, and was a candidate for the Presidency against Andrew Jackson in 1832, receiving the support of Massachusetts, Rhode Island, Connecticut, Delaware, Maryland, and Kentucky.

In the winter of 1832 and '33 the Congress of the United States, and indeed the whole country, were greatly agitated by the question of nullification. The tariff was the subject of quarrel between the two sections, North and South, at this time, the South wanting free trade, and the North, a protection-tariff. John C. Calhoun was the author of the doctrine that a State had a right to nullify any act of Congress that its people regarded as inimical to their interests. The contest of words ran high, and sectional war seemed imminent. That it did not come was due to two facts—the decisive policy

of Andrew Jackson, and the compromise tariff bill of Henry Clay.

The Whig party was organized in 1834, but it had not got strong enough in 1836 to elect a President. Mr. Clay declined the nomination, in favor of General Harrison, who was defeated by Martin Van Buren. In 1840, he desired the leadership of the party in the Presidential contest, but the friends of Harrison urged his claims on the grounds of his having borne the banner of the party when it was weak, and because of his military fame, which they claimed would add greatly to his popularity among the masses of the people. They might have added, and probably did, his want of a political record, as an argument in favor of his availability. This was the only time in the life of Clay when he could have been elected to the Presidency, and both he and his admirers were greatly disappointed at his failure to receive the nomination. In 1844, the young party went into the contest at a disadvantage, owing to the demoralization resulting from the death of Harrison, and the political treachery of his successor, "John Tyler," as well as from the unpopularity of Mr. Clay's views on the subject of the annexation of Texas. The result was, he was defeated by James K. Polk.

He had retired to his home at Ashland, in 1842, with the purpose of never again entering Congress, but in 1848 his people urged him so strongly to return to the Senate of the United States, and use his great talents and influence in favor of peace between the two sections of the country, that he reluctantly consented. He was now in his seventy-first year, and his hair was white as silver, but his form was unbent, and the native dignity of his presence and bearing had increased by age. He was the grandest-looking man that ever crossed the threshold of the Senate chamber. When he addressed the Senate, all eyes were turned toward him, and profound silence reigned, save as it was broken by his still musical voice or by the subdued applause that at times greeted the utterance of some grand sentence of patriotic sentiment.

The war with Mexico had not only settled the quarrel about the annexation of Texas, but it had resulted in the United States coming into possession of California and New Mexico, which were to be organized into States and admitted into the Union. This reopened the slavery question, and the excitement became so great as to seriously threaten the perpetuity of the Union.

The sage of Ashland was looked to by all who wished for peace, to furnish a plan of compromise that should again save the country.

He had been the great compromise peacemaker during the stormy periods of the past, and he was equal to the task now. But on taking the bearings of the situation, he saw that the South would not be content with any settlement that did not include the right and power to reclaim fugitive slaves escaping to the North. He therefore prepared a compound bill known as the "Omnibus bill," the provisions of which included no interference by Congress with the slavery question, in the States to be erected out of the newly-acquired territory, and a stringent fugitive slave law. This bill was supported by Daniel Webster, and other prominent, but mild anti-slavery men, and after a stormy debate it passed both houses of Congress, and receiving the signature of President Fillmore it became a law. This measure gave great offense to the more radical anti-slavery men, but that it postponed the American civil war ten years, there is no room for argument. Mr. Clay said in his speech in favor of this measure: "I owe a paramount allegiance to the whole country, a subordinate one to my own State. I can not afford to be sectional in my views, or allow my personal prejudices to sway my action as a Senator of this great republic." He was without doubt sacrificing his personal sympathies to his love for peace and continued union.

Henry Clay died in the city of Washington, on the 29th of June, 1852, at the advanced age of 73, and was buried at Ashland. His public career covered a period of forty-six years, and was crowned with the most brilliant success throughout. To have been elected President would not have added one iota to his fame, or increased the respect and reverence which the people of America and the world entertain for his name.

T. A. BLAND, M.D.

THE PLACE OF THE MORAL AND RELIGIOUS FACULTIES.

IT has been aptly styled the chief glory of Phrenology to have confirmed the Scriptural doctrine that the religious sentiments are the superior part of man's constitution. Many eminent theologians and moralists have preached and written eloquent discourses developing this principle in a conclusive way, drawing their reasoning from the declarations of Scripture. But it has been reserved for the science of Phrenology to expound and demonstrate this position, and to prove that the dictates of the religious emotions, enlightened by the intellect, are in beautiful harmony with the precepts of Revelation. The following observations constitute a further attempt to corroborate this profound principle, and to fortify it by the aid which historical evidence affords.

In recently studying the subject of Genius, it occurred to the writer that in all the departments of the arts, of painting, poetry, music, and oratory, the masterpieces of composition partake of the religious character. In other words, that the intellectual faculties have acted under the inspiration of the religious sentiments, receiving their stimulus and direction, so much so that the supremest efforts of the mind are pervaded by the spirit and influence of faith and adoration. This remarkable fact is not to be wondered at, if the text of this essay contains a principle of truth, which is the object of these observations to assert and establish.

Directing our attention first to painting, we discover that Michael Angelo, Leonardo Da Vinci, and Raphael are the greatest painters with which history acquaints us, and a glance at their works is ample to sustain the proposition announced. Some of the works executed by Michael Angelo are the "Last Judgment," the "Martyrdom of St. Peter," and the "Conversion of Paul." His celebrated frescoes on the ceiling of the Sistine chapel represent the creation of the world and of man; of the fall and of man's final redemption and salvation.

Da Vinci's celebrated painting of the "Last Supper" is another representation of a religious scene. The works of Raphael, who has been called the prince of painters, portray the "Coronation of the Virgin," the "Entombment," the "Dispute on the Sacrament," "St. Peter delivered from Prison," and the "Transfiguration." These are among the greatest works of art extant, and the reader will observe in their titles the religious characteristic ascribed to them.

If we now consider the subject of poetry, the result is equally striking and convincing. Without traversing religious poetry generally, let the mind confine itself to Milton's great epic, which many eminent critics affirm surpasses every other poem in the world, and every reader cognizant with the scope of "Paradise Lost" will recognize its confirmation of the argument advanced here. The whole of that sublime poem is invested with the truths of religion, and many of its most graphic scenes are drawn from the sacred narrative

Now let the subject of music be contemplated, and its testimony is equally effective, for is it not a notable fact that the highest kind of music is of a sacred or devotional character? Handel, who is considered by some the grandest of all musical composers, devoted himself in the later period of his life entirely to religious music, and his works are further evidence that the religious faculties, acting in concert with an enlightened mind, are the noblest of our powers. The oratorio of "Joshua," of "Israel in Egypt," of "Jephtha," and the sublime "Messiah" are splendid testimonials to the truth of the preceding remark. And besides, we have Mendelssohn's "Elijah," and "St. Paul," and Haydn's "Creation," with others of immortal memory. All these works are not only religious in their spirit and design, but the language of them, in some instances, is transferred unaltered from the Scriptures, and incorporated with the composer's music, forming its text.

Sacred oratory and architecture supply additional proofs. Although there have been exalted examples of eloquence in the various learned professions, the pulpit has furnished some of the most illustrious, espe-

cially of modern times, and sacred oratory is of all others the most majestic and imposing. The Scriptures themselves may be referred to as a forcible commentary on this opinion. In the writer's humble judgment the sermons of Robert Hall contain the most exquisite specimens of eloquence to be found in our language, and he is happy to find himself supported by Macaulay, William Pitt, Lord Lytton, and others.

In architecture—another branch of art—the greatest monuments of antiquity in heathen nations, and during all ages in Christian countries, have been temples, cathedrals, and structures where individuals have resorted to worship. The colossal temples of India and China, and those of Egypt, Greece, and modern Europe of today, are conspicuous objects among an innumerable multitude which evince the sovereignty of the moral and religious faculties, allied with a cultivated intellect.

Another remarkable fact under Christian civilization is, that most of the great original specimens of art in music and poetry are indebted to the sacred Revelation, not only for their character in a very intimate sense, but also for their incidents, scenes, and associations, producing the conviction that even the most conspicuous minds can make but short excursions into the regions of originality. If the reader hesitates before this assertion, let him examine "Paradise Lost," the "Messiah," and the productions of the great painters.

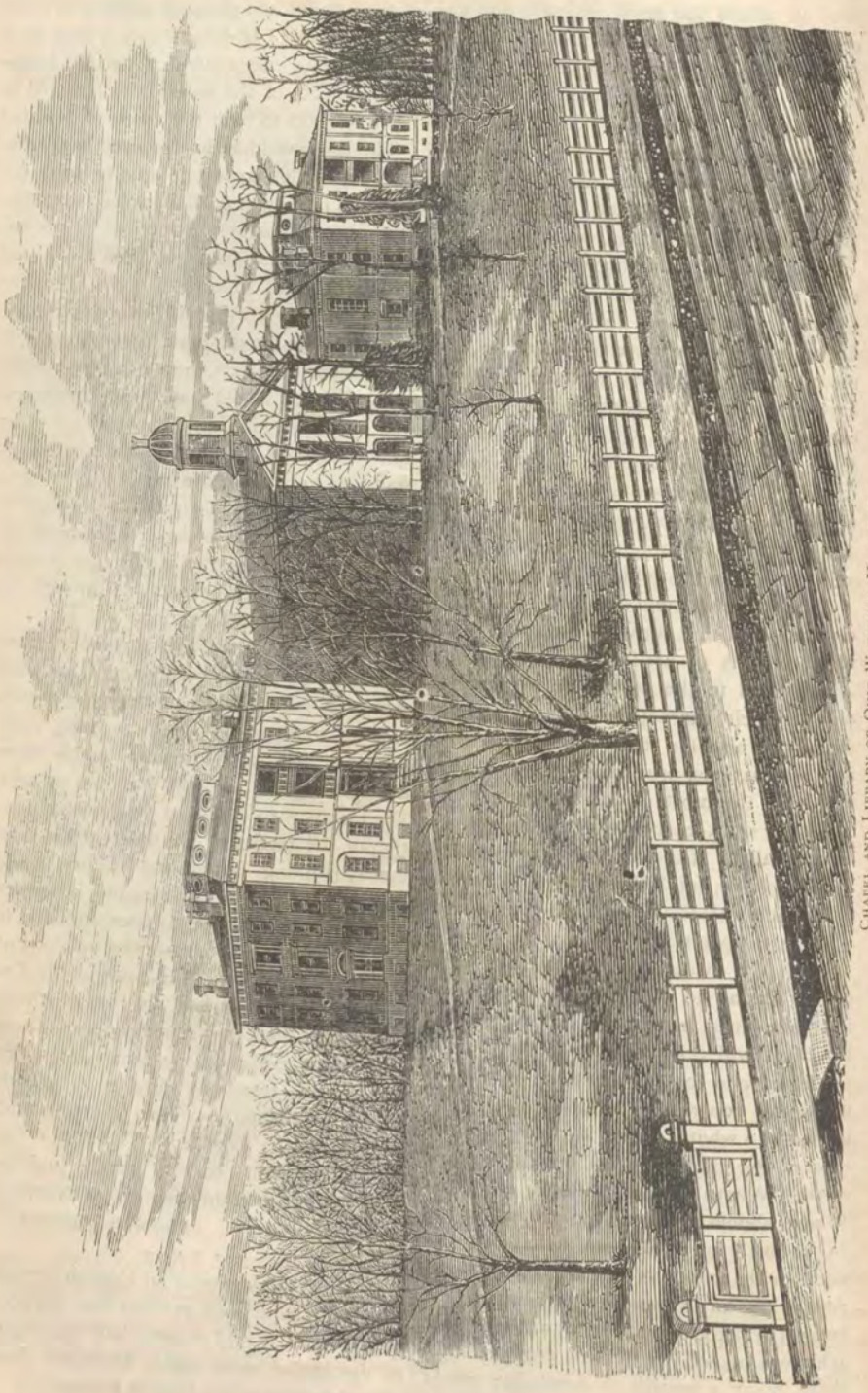
If all the evidence enumerated is sufficiently strong to justify the premises, the inference must be highly significant, and the effect will certainly not be to diminish our reverence for the Bible. For what a wonderful contrast the world of art now presents to what it would be if the disclosures of the Bible had not been communicated. Where would Milton's epic be? Where should we hear the strains of the "Creation" or "Messiah" that fill the mind with emotions beyond expression? And what an irrevocable loss would the lover of art experience if bereft of the mighty achievements of the Italian painters? In short, what a species of desolation would the civilized world suffer if the fine arts had not been inflamed by that Revelation which is the wonder and glory of millions of intelligent beings? How can such a book be a mere human composition, when the imperial intellects of the world have resorted to it for subjects to light the spark of genius?

The last consideration involved in the discussion, in this aspect of it, is to solve the question (although partially solved already), Why the most noble productions of the human mind in the arts have been suggested by and selected from the records of sacred history? The reply is: If the creative powers of genius could have been directed to more suitable objects, there can be no doubt those objects would have been preferred. We may therefore justly suppose no other sphere for their exercise offered greater attractions, and it appears sound reasoning to repeat the text, that the moral and religious faculties, being the highest endowment of the mind, impelled the intellectual powers to accomplish their conceptions through the medium of religious emotion.

There are many incidental considerations that arise out of this question as it has been regarded, but it would protract the discussion to too great a length to bring them forward, and would require much more ability for their solution than we possess. For instance, to advert to the general question of the merits of the different kinds of music, painting, poetry, and oratory, would exhaust a treatise and demand extensive attainments. All that has been aimed at in this brief review, is to state the opinions of the most competent critics, such as the Encyclopedias furnish, and to embody them. The impressions they convey appear to sustain the conclusions we arrive at. But whether the testimony cited is sufficiently cogent to produce conviction in every mind, is hardly to be expected. The path of inquiry, however, is easy to pursue, and inviting, although embracing a vast extent of research.

THOMAS TURNER.

IN a recent number of an English literary paper it is mentioned as a fact that the poet Wordsworth is said to have had the organ of Veneration more highly developed than any other man of his time in Europe.



CHAPEL AND LIBRARY OF OHIO WESLEYAN UNIVERSITY.

CHARLES H. PAYNE, D.D., LL.D.,

PRESIDENT OF OHIO WESLEYAN UNIVERSITY.

THE original of this portrait has a very active temperament, combining zeal—both mental and physical—with a certain toughness and elasticity which enable him to work easily and abundantly. The brain is large for the size of the body, and tends to exhaust his vitality pretty rapidly; but he, fortunately, is able to replenish his exhausted energies. His motions are quick and spirited; his word, his act, his step, are all emphatic. He moves as if he were in a hurry, but always as if he knew exactly what he wanted to do and was determined to do it promptly, effectively, and successfully. He combines in himself the traits and qualities of both parents, but rather more of the mother than of the father. He appreciates the situation and generally has a plan formed for procedure quicker than most men, and though he does not always stop to reason out a proposed course of action, he is able to give a reason and make it as plain as demonstration. In matters pertaining to the every-day current of life his intuitions lead and guide him; when an abstract question is presented he is able to analyze and reason it out on a logical basis. His method of reasoning—of argument, is generally first by analysis, then by analogy, and lastly he brings in the logical and synthetical phases of the subject; but most people will be able to make their own synthesis by the time he has furnished them the analysis; and as a writer or speaker it is both his pleasure and his pride to make a subject so plain that common people can never mistake or forget it. Hence he has the special qualities requisite for the teacher.



He knows how to bring hard, knotty, and ponderous subjects to the comprehension of the simple and the uninformed. He knows when he gets back to bed-rock—to the first principles, and how to explain beginnings of subjects, and trace them step by step to their ultimate. He may not have an excess of patience with dull, stupid students; but if persons have fair common-sense, he will find out how much there is of it and how to call it into use. Thus he is adapted to explain and make matters clear to those who might not be able to see their way under ordinary instruction.

He has another trait which makes him acceptable to the ignorant, to the dull, and to the weak; and this is an unostentatious kindliness. People who have the least of culture and confidence will come to him because they find in him a brotherly brooding of spirit—the power to bend himself to the wants of the needy. He is generous to a fault. Observe what height there is to the front part of the top-head. Benevolence and Veneration are located in that region. Benevolence renders him generous, mellow, placable, genial, burden-bearing, and sympathizing; and his large Veneration, with moderate Self-esteem, gives him humility, which is the opposite of arrogant domination. Among strangers he does not put on airs or carry himself as if he were "the Czar of all the Russias." His walk and appearance do not impress strangers with the idea that "I am a great man; distinguished, learned, influential, and consequential; therefore I expect respect and deference from everybody." The anterior portion of his head, drawing a line from the opening of the ear to the top-head, is much larger than the back-head; consequently intellect, and talent taken as a whole, with strong religious feeling, predominates in him. If his head were exalted upward and backward of the opening of the ear, in the region of the crown, he would incline to look down upon people—to strive for the highest seat in the synagogue, and to impress everybody with the idea of his greatness. But now he moves among men gently, but actively, never arrogates to himself greatness or power; and his ability to govern those who are rightfully under his authority is more a tendency to lead than to drive—to make people wise enough to do right, or ashamed of themselves if they do wrong, than to be domineering. He does not inspire people with fear of himself, but rather with a disrelish to do wrong, or to do that which is unmanly, unkindly, or mean.

He has wonderful power to read strangers. He would look into the face of a class or of a congregation, and feel that he knew every one of them, and how to express himself to each, how to carry himself so as best to impress, guide, and instruct each one. He is not inclined, therefore, to dogmatize; and sometimes he seems to take more pains to prove things than is necessary to those whose duty it is to accept his *dictum* without question. Explanations are to him very easy. His language is ample. He can wind his words around his thoughts in such a way as to clothe the dryest subjects with garlands. He can build the hard, dry trellis of logic, but he inclines to overspread it with a luxuriance of illustration, so that his subject shall seem to be a living reality rather than a structure of mere strength; more like the vine-clad and fruit-bearing arbor of Autumn than like the dry frame-work of the trellis and the pruned vine in March.

He is orderly and systematical in his thoughts; has a good memory of facts and faces, and places and words. He is ingenious, has a keen sense of combination,

whether it relate to facts and ideas, with the frame-work of argument, or with the structure of machinery, or with moral and social influences. He has the power to coördinate people in such a way that they will work in harmony with each other; and this requires both Ideality and Constructiveness, as well as Benevolence, to melt and mold people so that they will assimilate and coöperate. He is good company for young people, and when he goes among the groups of young people, they all give attention and smile, expecting some pleasant word, some joy-bearing statement that will instruct the intellect, guide the understanding, and pleasantly excite the social and moral feelings. Besides, he is remarkable for his wit. He sees the droll and eccentric, the absurd and the ridiculous, and appreciates everything that is funny; and he does not leave this faculty out in any of the graver forms of effort in which he may be engaged. If he were preaching on "the exceeding sinfulness of sin," he would show that it was ridiculous, and absurd, and unmanly, and unmannerly to be wicked; and would use sarcasm wisely to make vice appear to be odious, and virtue regnant and glorious.

He is fond of children, and especially of young people; is naturally gallant, tender, and gentle to woman; has hardly enough dignity; the crown of the head should be higher. His faith lifts the curtain of future mystery, and gives him to see more clearly than most persons that which lies beyond the lines of logic and the realm of reason; and though he can reason soundly, he is largely influenced by his spiritual and moral sympathies, and accepts as truth much that logic can not reveal, though it may sanction. A mother's love can be felt without corresponding philosophy to explain it. Woman loves first, and reasons about it and sees the propriety of it afterward, but is not, necessarily, moved in her affections by a rational sense of the needs of the one who receives her affection. So this gentleman's spiritual, religious, and fraternal sympathies open to him a world of truth which the reason waits to indorse or fails to comprehend. In common phraseology, the heart leads and the reason follows, in that field.

He ought to be excellent in literature and sound in science. If we could give him more love of gain, more policy, a little more severity, and a good deal more pride and sternness and steadfastness of character, it would aid in setting off to better advantage his intellectual, moral, and religious qualities. He will, doubtless, do more work in a year than almost any man within the wide range of his acquaintance; partly because he works easily, and partly because his intuitions and judgment combine to make his pathway clear and his course decisive. In other words, he does not have to try experiments and retreat. What he begins he carries through; as the slate quarryman knows how to strike a block of stone so as to hit the line of cleavage, and therefore neither spoils material nor wastes time, so our subject, in his dealings with men, in his teachings and arguments, hits the point of the subject the first time, and deals with all sorts of men in as many different ways as there are variations of character, alternating "from grave to gay, from lively to severe." He expresses himself in such a direct manner, though in such varied form, to different persons, that each one feels himself specifically addressed, and wonders how the speaker happened to know all about him, and what he liked best.

He possesses many of the elements of the highest order of popularity. We regret that he has not more crown of head to give him that stern dignity and that exalted ambition

which would enable him to bear aloft his intellectual and moral powers in a manner more mandatory or commanding. There are but few people in any community who thoroughly appreciate him; but when he is gone, and others try to fill his place, they will then see the difference between him and them, and wonder why they did not appreciate him more while he was with them. He is somewhat eccentric, and even boyish, because he lacks dignity; therefore we wish that he had a little more of those stern and dignified elements which always tend to keep a man up to his par value in his own estimation.

Charles H. Payne was born at Taunton, Mass., October 24, 1830, of Scotch-English parents, who came to the United States with the Pilgrims in the *Mayflower*.

The family is long-lived, his mother now being in her eightieth year, while his grandparents lived to be over eighty, and two of his paternal uncles died at a still greater age. His father was drowned while the subject of this sketch was an infant, leaving his education and training to his mother. Mrs. Payne was the daughter of a farmer; she had rare natural abilities, but unfortunately few opportunities for culture, in her youth, were afforded, as compared with the present time.

At an early age Charles was compelled to rely upon his own efforts for a livelihood. From eight to fifteen he labored, sometimes upon the farm, sometimes in the factory, and sometimes upon the shoemaker's bench, attending the public school during the winter. At fifteen he entered a store, where he remained three years, spending much of his spare time over such books as he could procure with his limited means. About this time he became the subject of a decided religious experience, and immediately joined the Methodist Episcopal Church. He made the Bible the subject of close study, and gave much of his time to religious work. At length, leaving his clerkship, he began a course of preparation for the ministry at a select school at Taunton, and in the Providence Conference Seminary at East Greenwich, R. I., from which he entered the Wesleyan University at Middletown, Ct., graduating in 1854. He then attended the Biblical Institute at Concord, N. H. (now Boston School of Theology), and from there entered the ministry. During his course at college he met his entire expenses by teaching, sometimes as a private tutor, and sometimes in the public schools, but always keeping up his studies while absent from the University.

In 1857 he was married to Miss Mary Eleanor Gardiner, and soon after joined the Providence Conference, remaining in it eight years. In the year 1865 he was transferred to the N. Y. East Conference, and stationed at St. John's, Brooklyn, where he induced his people to build a new church edifice, which is one of the finest of the denomination in the country.

At the close of this pastorate he was transferred to Philadelphia, where he took charge of the Arch Street church, whose new and costly marble building was completed during his pastorate. He was afterward stationed at Spring Garden Street church, and from there removed to Cincinnati, O., where he occupied the pulpit of St. Paul's.

In the summer of 1875 he was elected to the Presidency of the Ohio Wesleyan University at Delaware, O., succeeding Dr. Merrick. The degree of D.D. was conferred upon him by Dickinson College, Carlisle, Pa., in 1870, and that of LL.D. by the Ohio University, Athens, Ohio, in 1876.

One who has observed his course previous to and after his assumption of his present duties, writes:

"The past vigorous growth of this institution, its central position in the great State of Ohio, its abundant service to, and widely increasing influence in, the denomination to which it belongs, the rapidly-increasing demands of the Church and country upon it, and the eminent success of preceding administrations, required in the incoming president abilities of no ordinary cast.

"It is probable that no position to which a man is called demands greater or more

varied and flexible talent than that of a president of a literary institution. He is expected to be a man of ripe scholarship, of broad learning, a successful organizer and financier, of profound sympathy with youth, of popular pulpit and platform powers, and of so symmetrical and transparent a character that it shall prove a rich legacy to all his students.

"Dr. Payne's recognized ability as an instructor, pastor, and administrator naturally suggested him for the high office to which he has been called, and gave rise to large expectations which the initial year of his administration proves were well authorized.

"His ready adaptation to his varied duties, his quick comprehension of both underlying principles and minute details, his attractive oratory, his sound judgment, his wise counsels, his firm but kind discipline, his untiring activity, and his undivided attention to the great interests over which he presides, promise an educational career of commanding usefulness."

Dr. Payne recently published a sermon on "Our Nation's True Policy in respect to Christianity and the Bible," which has attracted much attention. A pamphlet of his, entitled "The Social Glass and Christian Obligation," is one of the strongest appeals that have ever been written for total abstinence on the part of Christians from any use or sanction of alcoholic drinks. His sermons on "Daniel, the Uncompromising Young Man;" "Solomon, the Brilliant Failure;" "John, the Rebuker of Herod, the Freelover," with others which have been published, are models of earnest and living pulpit eloquence.



MERRICK HALL.

THE OHIO WESLEYAN UNIVERSITY,

which to-day occupies a high position among the colleges of the West, was founded about thirty-five years ago, under circumstances which gave little promise of its after extension and importance. Edward Thomson, subsequently Bishop in the Methodist Episcopal Church, was made first President of the Faculty, with a salary of only $800.

As the institution opened with but twenty-nine enrolled students, with no endowments to support a faculty, no library or apparatus for illustration, the small compensation accorded the President and the professors can not be a matter of surprise. After three or four years, however, the increase in the number of students rendered it necessary to enlarge the building, or add an extra structure. Morris Hall was erected on the College grounds for the use of students as a boarding-place, but the wisdom of the management has inclined to discountenance the grouping of students by themselves, preferring that they be placed in families in the immediate vicinity of the College, so that they shall have some of the associations of home, and intercourse with older persons. In 1851 Thomson Chapel was built at a cost of $22,000, and is a handsome structure of brick, three stories in height. It is the central one of the three buildings shown in our first engraving. In 1866 the funds were contributed for the erection of a building for the purposes of a library, and President Thomson visited England and France to select books for it, and many additions were made to the shelves by gentlemen interested in the prosperity of the institution, so that now it contains nearly ten thousand volumes.

Professor Frederick Merrick succeeded Dr. Thomson in the Presidency. Dr. Merrick had been a professor in the institution from 1845 until 1860, when Dr. Thomson resigned to take the editorship of the *Christian Advocate and Journal*. After thirteen years of service in this important relation, Dr. Merrick resigned on account of ill-health, and Dr. Payne, as we have already noted, was elected by the trustees to the Presidency. In 1874 a new building was erected for the purpose of providing accommodation for the cabinet and museum of natural history, and lecture-rooms for the scientific departments associated with the museum. It was named "Merrick Hall," in honor of the late President.

The courses of study embraced by the University curriculum are those which are offered to students by colleges in general, together with special departments in science and theology. It was designed as a feeder of the Methodist Episcopal ministry originally, but with its increased popularity it became adapted to the general purposes of a college, and is now conducted upon a non-sectarian basis, receiving young men of all creeds, and aiming to give them a full intellectual and moral education. By a very liberal arrangement of scholarships, its student list was greatly increased, there being in the institution, in 1851, five hundred and six, and until the breaking out of the civil war the enrollment annually was over five hundred. During the past ten years the average attendance has been about three hundred and fifty. The number of graduates is six hundred and fifty-two, of whom nearly one-third are in the ministry.

The site of the institution is attractive, and much pains have been taken to render the grounds—which cover thirty acres—sightly and picturesque. Delaware itself is a pretty little town of about 6,000 inhabitants, who exhibit much business enterprise; and as three railroads make the town the place of their junction, they contribute materially to its prosperity.

In closing this article, we add a few extracts from Dr. Payne's excellent address on assuming the Presidency of the institution:

"Our complex nature is one and inseparable in its grand unity of design. The entire being is to be educated for the entire work of life. Any system of education, or any individual education under any system whatever, is a delusive failure that does not recognize and constantly heed this primal fact. But more of this further on.

"We have said that higher Christian education is the special demand of the hour—as the safeguard of the nation.

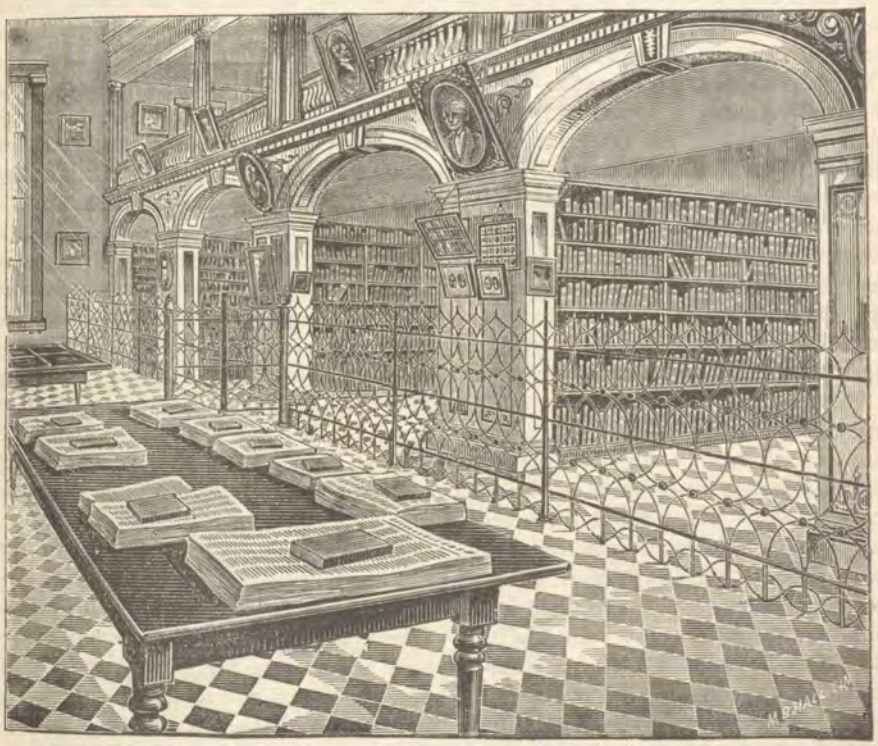
"Few persons, probably, consider that there is any intimate relation between the college, where a limited number of youth are pressing their way up the loftier heights of learning, and the nation's prosperity.

"What has the college to do with the nation's growth, the nation's influence, the nation's safety and perpetuity? Much every way; vastly more than I can now command time to merely suggest. The educa-

tor, unrecognized though he may be, is the founder of States—the architect of national greatness. And by educator we do not mean one who teaches the rudimentary branches alone. Important as our public schools are, they are but a part of the great educational work necessary to the success and safety of the State.

"Without the coöperation of higher institutions they could not even exist; and their best work, noble and worthy as it is, is but the foundation of a structure to be completed by other and coördinate agencies. Our fathers, that noble race of manly men, who laid the foundations of our national greatness, recognized this fundamental fact and built grandly on it. The infant colony, with a combined wisdom, faith, and heroism that challenges our admiration, in their poverty and stress of circumstances founded Harvard College, and by that act changed the destiny of the entire nation. Its influence on the political, social, and literary history of the colony, and the independent State that arose out of the colony, can not be measured. The College of William and Mary, Yale, Princeton, and others soon followed, established with like breadth of wisdom and heroism of faith, and exerted their incalculable influence on the forming and future nation.

"How much this nation owes to these and similar institutions for its present heritage of freedom it is impossible to overestimate. Cornwallis well and truthfully said: 'The early establishment of your colleges hastened the Revolution half a century.' It not only hastened the Revolution, but made it possible and successful. Thus, with us, the college makes the State, not the State the college. And the college is not less an essential factor in perpetuating the State, with its free institutions, than in forming the same. Its influence is felt potently, not only by the limited number of youth gathered within its halls, but it



INTERIOR OF LIBRARY.

reaches out to the utmost circumference of society and fortifies the whole body politic. While it is developing the individual it is also shaping the policy of the nation; while it is forming the personal character it is forming the State; while it specially determines the future of the few it puts the stamp of destiny on the generation."

. . . . .

"I do not need to be reminded that education is a two-edged sword whose Damascene blade may be wielded for good or evil. Indeed, it is to this very fact that I would direct special and thoughtful attention. The peril of irreligious education—that is to say, of education which is purely secular—I apprehend is but too feebly felt even by the majority of Christian people. And that peril was never more imminent than to-day, for it frowns upon us with fearful menace from the high places of trust and power. Secularism is the popular dominant power, and religion is proscribed and forbidden to urge its transcendent claims outside its own sacred sanctuaries and chosen altars of devotion.

"It is of prime importance at such a time that we should re-state the (true) philosophy of education, and reaffirm the inseverable connection between true religions and true education. The real end of education, as already given with the authority of even such a writer as Herbert Spencer, demands that religion enter into it as a positive and ever-operative factor. If its function be to prepare us for complete living, how imperfectly is that function discharged when the intellect alone or chiefly is the objective point of culture, while the religious nature, which constitutes the basis of all "complete living," receives no specific training? Yet such is practically the fearfully defective education which large numbers of our youth are now receiving in this nominally Christian country.

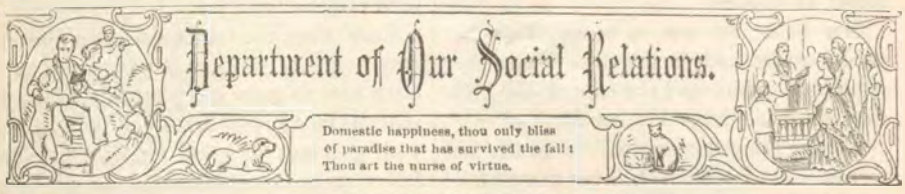
"Viewed philosophically, the neglect of the religious element in education is a violation of every recognized principle of sound philosophy and every law of our being. If we consider the *object* of education, *character* is the culmination of all culture. *Esse quam videri.* Yes, *esse quam haberi, esse quam noscere.*

"*Being*—true, worthy being—is more than all *seeming*, more than all *having*, more than all *knowing*, more than all *doing*. And this thought is to be kept in view in every lesson and every effort of life, while from it will come strength and wealth of character inestimable. We are striving, if we are true educators, to make men not pedantic puppets nor cunning tricksters to practice scholastic jugglery on the solemn stage of life, tossing about its sublime verities as the cheap player does his balls and bells. Is it needful in this advanced century of the Christian ages that we should go back to the ancients to learn the true place of religion in education? We shall learn valuable lessons from Pythagoras concerning the blending of all true elements of character; Aristotle will teach us that what sculpture is to a block of marble, education is to a human soul, the educator bringing out the form of perfected beauty as the sculptor does the concealed marble figure; Plato will inform us that a good education consists in giving to the body and the soul all the perfections of which they are susceptible; Herodotus will tell us that when the Persians taught their sons three things only, one of them was to speak the truth; and Xenophon, in his Cyropædia, will introduce us to that pleasant and instructive picture of the Persian mode of education, in which we shall learn that the boys, until the age of seventeen years, were taught to know and to practice justice, and to entertain right sentiments toward the divinity, their country, their parents and their friends; and from seventeen to twenty-seven years they passed their nights in the public edifice, that their morals might be under strict surveillance. Pursuing our investigation along the track of the centuries, we shall find that in every system of education worthy a moment's thought, and in every stage of civilization, under every form of government, the culture of the religious and moral nature has been deemed of prime importance, however imperfectly the end has been secured. Are the men of our day, who practically ignore religious, if not, indeed, moral teaching in their system of educa-

tion, wiser than the aggregate wisdom of the past?

"See the soundness of our philosophy in another light. What does all education—as a work of research and acquisition—seek to compass? It is not truth; truth in its broadest reaches; truth in its entirety; truth in its relations; truth in its full-orbed brightness?

"What will this pursuit, honestly continued, bring its votary to but to God, the central source of all truth? Who can study the solar system without perceiving the relation of every inferior body to the central sun? All truth is correlated. There is a solidarity not of the physical sciences alone, but of all departments of human learning, all branches and ranges of truth. Put God in the center of your system, and all science and all philosophy fall into beautiful, harmonious order around the central, all-vivifying, all-illuminating figure."



OLD AGE BEAUTIFIED.

WE need not look shrinkingly forward to old age as a joyless and dreary season. What though the step be feeble, the once soft white hand wrinkled and trembling, the eyes dimmed, and brow crowned with the frosts of many a winter, the heart and mind will be the same that we hold today; and as we guard those, keeping them pure, storing up rich treasures of knowledge, enshrining friends within them, securing love, cultivating a good conscience, living at peace with all men, and above everything else, serving God and looking forward to an entrance into heaven; as we so guard our inner life, thus shall the end of our days be beautified. Keep the sunshine bright through the morning and long day of life; banish clouds of enmity, distrust, and peevishness, and when the twilight comes, how glorious will the sun sink to rest amid heavenly visions, until the whole west is resplendent in the light, and tells us with its long burning after-glow what a day of brightness has ended.

In the beautiful life of Mrs. Doremus, so recently gone from us, we have an example of old age beautified. Every day of her existence seemed to be spent for some one else; her sympathies were always ready to flow out toward others in their joys and woe. She took an active interest in every event of the day. One of the brightest faces among the visitors at the Centennial Exposition was hers, as she went from building to building, enjoying everything with that sweet, wise, childish heart. Then on her return, she would have her servants go one day, rising unusually early, that they might not be delayed, paying their expenses, and giving them something to spend for a few little mementoes. I shall never forget the bright sparkle of her eyes as she spoke afterward of the different objects which had interested her, saying, naïvely, "My dear, be sure to go to the Centennial!"

Her peaceful face, with its brow crowned with silvery hair, and her fragile form bent in the latter years of her life by debility and disease, were well known in our city. She could safely go alone among the roughest characters, her light step always greeted by blessings. Coming home unattended from a labor of love, one night, last winter, a friend met her, saying: "What! are you here alone?" "I am never alone!" she answered, with that smile which her friends so much loved.

For thirty years her name has been con-

spicuously connected with the principal charities of our cities; but not alone with mere local charity was she content. Foreign missions found in her a warm advocate and zealous supporter. Very seldom has a missionary sailed away from our shores but her sweet face has been there to bid him "God speed!" and to the returning ones her welcome has been thorough and loving. "How do you endure this terrible heat?" said a friend, in our hearing, to her one sultry day, last summer. "Ah!" she said, with her contented smile, "I keep hard at work, and forget all about it."

Her home life was as beautiful as her public career, and in the direction of her household affairs and the care of her children she was a marvel to her friends.

"Jesus, bring the chariot!" were her last words. Ah, on whom shall her mantle fall! Our vestals are going into silence, our queens are leaving their sceptres, our kings their thrones to ascend higher! Who can fill their places? Does this generation hide in its bosom souls as lofty, as impassioned, as inspired as those it has lost?

Old age can never be perfectly beautified unless in our youth we remember our Creator; it is then that our hearts are fresh and wide, no cares crowding out the vision of heavenly things; then is the best time to bid Jesus enter, and henceforth, we can say with her, whose life was so consecrated and beautified, "I am never alone!"

A firm religious belief makes life a discipline of goodness, builds new hopes when all earthly ones have vanished, and lights up the dark aisles of old age till they gleam with radiance and joy.

Since, then, the time must come when the rosy hours of youth will pass away, let us learn how to grow old gracefully, taking the years as they swiftly come, and twining them with garlands of good works which shall follow us as time passes and our feet totter, while locks grow white and eyes are dimmed; but the fragrance of the flowers will sweeten the gloom, and beautify the pathway, till it blooms a beautified second childhood at the gate of Paradise.

SARA KEABLES HUNT.

LIGHT IN DARK PLACES.

"This mournful truth is everywhere confessed,
Slow rises worth by poverty depressed."—SAMUEL JOHNSON.

CHAPTER I.

THE CONTRASTS.

"OFF with you, mizzle." Saying this, a stout, square-shouldered man advanced, somewhat briskly for one who was club-footed, from the hall-way of a tall building on Pearl Street, toward a group of half-grown girls and boys who were crouching over a large packing-box half filled with the waste and sweepings of said building.

Who has not often seen a similar group, as he wended his way down-town in the morning? The ashes, bits of paper, and miscellaneous accumulations of the day before having been swept up from the floors of the thousand stores and lofts which line the thoroughfares of great New York, are thrown into barrel, box, or tray, as the case may be, and that receptacle, with its contents, is placed on the outer edge of the sidewalk to await the coming of the cartmen, whose duty it is to collect such refuse. Scarcely has the waste-box been left at its customary place by the porter, than one or more of the street Arabs pounce upon it, like a vulture on carrion, and rake over the contents. The waste of some establishments is considerable and varied, and when it is set out, a contest ensues, frequently, among the squalid herd of chiffoniers, who have been awaiting it, as to who shall have the first dive into the dusty heap. We have seen a quarrel so fierce among a half dozen dirt and grease-begrimed urchins, over a few fragments of glazed paper and tinsel, the sweepings of a paper-box factory, that a policeman interfered and drove them away from the coveted rubbish.

"Off, I say," shouted the man, in a louder key, for the little vagabonds did not stir at his first command. But now, when he was almost upon them, they suddenly darted into the street, some with handfuls of the stuff they had been raking over. The man, or rather foreman of the bindery, to which this incident introduces us, shook his fist at them, saying:

"Let me catch you at this again, if you want your heads broken," and was answered by jeers, and groans, and tantalizing laughter, such as the wild street boy of the town is capable of. With a strong sense of irritation, Mr. Briggs turned and retraced his steps to the hallway, and slowly moved up the steep stairs to the loft in which destiny had given him a little authority over the daily work of forty or more girls and women.

Scarcely had he disappeared within the building when the little chiffoniers resumed their labors in the packing-box, and one of them, a boy of twelve, with blue eyes, a wealth of brown hair in disordered masses, and features whose refinement of expression was heightened by the luxuriant hair, said to his neighbor—a boy who rejoiced in the possession of a pair of pantaloons which formerly had doubtless formed part of the wardrobe of a Lambert, and which had only been shortened in the legs—"Bumpy, who cares for old Briggs? I know him. Don't our Sadie work up there? I guess she does, and old Briggs' mighty sweet on her. I heard her tell mother all 'bout him."

Bumpy rejoined, raking away all the while: "Briggs, stiggs, pigs, who cares fur ole Briggs? He's nothin' anyhow; hasn't leff anythin' for us here that's wuth pickin' up. He's an ole fraud. Woolly, less go ter some other pile."

It was in the third loft of the building where the chief part of the work of the bindery of Blossom & Gaff was done. A long, low-ceiled room, imperfectly lighted, and worse ventilated, contained at that hour of the morning—8 o'clock—nearly the full quota of hands who repaired there day after day to earn their scanty wages. There were between forty and fifty women busily engaged in the different processes of book and pamphlet binding. Some were evidently well on in years, while the majority did not exceed twenty, but irksome confinement had told on the features of nearly all. In a recess close to the rear wall of the room sat a young girl, of not more than seventeen. The heavy masses of rich brown hair which rippled down over her shoulders, and glistened in the passive light of the room, would instantly have reminded one of the boy at the ash-box, had he seen him and soon after passed up into the bindery. The same profusion of hair, the same delicate tint of complexion, the same dark eyes, marked "Woolly" and "Sal" as brother and sister; but the latter possessed that rare organization which preserves, even amid care and poverty and toil, the rounded outline and physical symmetry of those born



SADIE.

to easy ways and comforts. She was not a novice at her business, as well appeared in the deft method by which she joined the folded sheets and gave the book on which she was working its form. Within a dozen feet of "Sal" sat a young woman of totally different mold. Tall, wide-shouldered, and bony, her features were coarse and marked by that terrible disease so destructive to beauty, small-pox, and her hair was black and coarse and singularly stringy. Her large, masculine hands seemed well fitted for the work she was usually given, the binding of large volumes—not the finer grades of work, but the common sorts we meet with in the cheap octavo editions of standard authors, or the cloth-bound volumes of monthly magazines. By no means neat in her dress, like "Sal," she neverthe-

less appeared to appreciate the needs of her calling in the strong dark cotton fabric which composed her "suit." "Sal" showed not a little native taste, but the shortcoming in its appropriate exhibition was due to the very limited capacity of her purse.

These two "work-women" were close friends, strange as it may seem, and yet it is not so strange when we consider the possible supplementing by one what was wanting in the other; how "Betty's" powerful motive organization, and familiarity with the rough phases of life contributed physical inspiration and not a little protection to "Sal"; and how "Sal's" sensitive delicacy and generous zeal smoothed over many of the asperities of "Betty's" nature. Their origins were as different as their dispositions and appearances, yet poverty, which levels distinctions, had brought them together, and they were to each other in their street and work-room experiences very helpful.

CHAPTER II.

A WORKING-GIRL'S ANNOYANCE.

Six o'clock had been sounded by bell, whistle, and gong, and the many factories and business houses had dismissed their employés. The streets were thronged with men and women, boys and girls, hurrying homeward; many with heart or head filled with emotions excited by incidents of the day; some bearing carefully matters of pleasing interest, to be told to the little circle which awaited their coming ere the evening meal was partaken of. "Sal" and Betty were among the homeward bound, walking together, as their homes were but a square or two apart, and discussing with rapid tongue events of the day. By "Sal's" excited manner it was evident that something more than ordinary had occurred. Perhaps their conversation may give a hint of its nature.

"Young Gaff 'peared kind er sweet on you this a'ternoon," said Betty. "But you'd ought a seen that Briggs, how sour he looked over there when Gaff was a talkin' to you."

"I'm sure," exclaimed Sal, "I can't stop the bosses from speaking to me if they will. And Briggs tries to show so much of his authority whenever Mr. Gaff has been among the girls. To-day he was really impertinent. For when Mr. Gaff had gone, he came over and just as much as told me that I had no business to be talking to Mr. Gaff."

"What a fool!" said Betty, indignantly. "He must think that he owns yer. I'd give him a bit of my tongue ef he dared to insinivate anything of the kind ter me. But 'twont do for you, my lass," (and here Betty put on the tone of motherly counsel which she deemed her age and long experience in the world warranted in this relation) "to be sassy or impudent to Briggs, 'cause he's the foreman, and knows more 'bout the business than the bosses theirselves. Lor', child, he's old 'nough to be yer father, and jest you keep quiet like, and make no fuss, 'less he wants to go too far. An' I don't think he'll do that. Some of the gals have been foolish, thinkin' that when they showed a likin' to Briggs he'd be showin' them favors, puttin' up their wages. But no such thing come of it. The ole man Blossom has the regulatin' of the wages, an' he's as sharp as a cold-chisel when money's on the carpet. So you jest keep putty quiet and work along, sayin' no more than you must."

"But, Betty, I think I can get along pretty well with Briggs; it is Mr. Gaff who really annoys me most. He's married; has a real nice wife, the girls say; and yet he has said things to me which don't look well for a married man. Why, to-day he actually invited me to take a ride with him Sunday afternoon to the Park."

"What! you don't say so, Sal! Of course yer didn't give him no oncouragement?"

"No. I told him my mother did not care to have me go out for pleasure on Sundays. Besides, I was in the Bible-class at the Mission, and I went to that afternoons. Then he said that he would be glad to take me some other afternoon or evening, and I hardly knew what to say at first to that. But as he asked me to say when I would go, I told him that I had never gone out with gentlemen alone, and would ask mother about it."

"Well, I'm beat. I know now why he

sent me into the paper-room for that twine which I couldn't find. That's what he wanted to say to yer, and he didn't want me to hear—the sly fox! I guess yer mother can give yer good advice on the p'int, and 'taint no use for me to put in a word. Well, here's my den, and you must hurry straight home;" and giving her young work-friend a very earnest clutch and kiss, Betty turned down a narrow lane, while "Sal" tripped on, soon compassing the hundred yards more of distance which lay between the point of separation and the five-story tenement in which she dwelt.

CHAPTER III.

TABLE-TALK—RECTITUDE.

Up three flights of stairs into a back room rushed "Sal." The door had been opened slightly by the expectant mother, who received her beautiful child in her arms and held her closely embraced for a few moments. She was not "Sal" in that humble abode, but a name which brought memories of a very different sphere burst from lip and tongue of mother, brother, and little sister Dell—"Sadie!" The polished manner, upright yet easy bearing and refined language of that mother declared her birth. There was much the same symmetry of form and feature, and the same luxuriance of hair, though of darker hue, which characterized Sadie, and Norton, the boy, whose street title, as we learned in the first chapter, was "Woolly." He was there sitting by a window which overlooked the squalid and promiscuous view of a tenement's rear, listlessly drumming with his fingers upon the sill. While little Dell, whose dark hair and olive complexion intimated the possession of a degree or two more of the lost father's temperament, sat in her high chair at the table, eager for her portion of supper, yet shouting with delight at the coming of "Sister Say."

A minute more and the four were seated at the little table, and after Mrs. Camp's brief, but fervent grace—"Bless, O Father, this food which Thy providence has provided, that its use may give strength to our bodies. Amen."—the frugal meal was begun, and lively tongues broke forth in pleasant accompaniment to the jingle of knife, fork, and spoon. Norton and Sadie talked of what they had seen and heard that day, now and then asking for explanations of what seemed unusual or mysterious in them, and Mrs. Camp warmly entered into their lively, desultory talk, giving useful suggestions and practical counsel here and there, as circumstances warranted. It was in these meal-time talks that much valuable instruction was imparted by the lady, whose former position and special inclination had conduced to the storing of her mind with useful information. She had in girlhood found more enjoyment in the study of language and science than in acquiring the so-called accomplishments of music, dancing, embroidery, etc., and now in her poverty she found deep solace in the fact that she could instruct her children in many things which they could learn otherwise only in the high school or college, which they were debarred from attending by circumstances.

"Mother," said Sadie, "these gems are just splendid. You know those I took to Betty for her sick brother? Betty said her mother wouldn't believe that they were made with only wheat-meal and cold water. She declared it was impossible to have them so light without yeast. Betty thinks her mother is a famous bread-maker, and some of her bread, which I've seen, looks very nicely, like the baker's, but it smells so sour. Why is it, mother?"

"Simply the yeast she mixes with the dough. That is sour, and in the process of fermentation more sourness is developed, because the rising of the dough is due to the bubbles of carbonic acid gas which pervade it. I have heard people often speak of the sweetness of their yeast-raised bread; but I think only those who have eaten good unleavened biscuit and bread know what is meant by the words *sweet* bread."

"I suppose that people who are used to such bread as the bakers make don't notice the sour taste and smell as we do."

"No, my love, I used to think that the baker who supplied us at father's made the best bread in the world. I thought that it was necessary to put yeast in to make bread at all, and laughed, just as people do now,

at the idea that it could be done. But when I had a taste of a well-made 'gem' I noticed the difference in quality."

"Who taught you, mother, to make such bread?" asked Norton.

"I learned of Mrs. Wilson, at Dr. Wilson's Hygeian Home, where I lived once for six months."

"That, mamma, must have been a great many years ago," said Dell.

"It was but two or three years after Sadie was born, darling."

"What were you doin' there, mamma?"

"I was very ill, my Dell, and your dear papa wished me to go and receive Dr. Wilson's treatment. I went and found that my ill health had been occasioned mainly by the way in which I had been living. Like too many people in the world, and nearly all around us here, I had been eating things which were not good for me, and acting right the contrary to nature in many respects, although I thought I knew more about what was right and proper than most women."

"And you did, mother," exclaimed Norton, who had a profound reverence for his mother's learning.

"Yes, like many, I knew better than I did, and I didn't wish to appear odd and out of keeping with my friends and acquaintances. My dear children, always do what is right and true when your own health and character are the main things to be considered. Don't allow yourselves to be turned away from what is proper by the laughter and ridicule of others."

"I tried hard to do right to-day, mother," said Norton, "and I think I come pretty near it."

"How, my dear boy?"

"Why, you see, Bumpy, that boy who lives up the alley, and me—"

"*I*," corrected Sadie.

"Yes, Bumpy and I—"

"What a funny name—he, he!" put in Dell.

"Yes, all the boys call him that. I don't know his other. Well, Bumpy and me—*I*, I mean—were poking in a barrel of stuff down in Perry Street, when I hooked out a big lot of waste paper—newspapers—all jammed together, and *awful* heavy."

"My only boy, can you not avoid using such words?" said Mrs. Camp.

"It's so hard, mother, you know, when all the fellers—boys, I mean—use such bad words, to keep from using them too."

"I know it, indeed, my poor child," replied the sympathetic mother, with an inward sigh, "but sometime we shall find a better home and other associates than the poor and unfortunate ones here, and then would not such talk, if you get into the habit of using it, be very much out of place?"

"Oh, mother! shall we ever have such a home as we had when I was little? Do you think we shall?" asked Norton, with gleaming, anxious eyes.

"In God's own time 'twill come, I'm sure; but let us hear the rest of your adventure."

"Well, I gave what other stuff I'd found to Bumpy, and shouldered the bundle of paper. Bumpy said there might be something inside, and I'd better undo them. So we went into a back lot and I looked through them, and near the middle I found a little box in which was a round silver thing like a medal, and on it 'James Stanley.' I told Bumpy that I was going to carry the medal and papers back to the place where I found them. And he called me a 'big fool,' and that 'the medal wasn't worth much anyhow, and I'd get a quarter for the papers down at O I C's.' Well, I took them back to where the barrel stood, and up in the building I saw a sign, 'Taylor & Stanley.' So I knew that was the place to ask, and I went up-stairs and knocked at the door. Somebody said, 'Come in,' and in I went. I asked a man with a big lot of whiskers on his face if I could see Mr. Stanley, and he said, 'That's my name.' Then I said, 'Here's something I found in the barrel on the street this morning,' and handed him the box with the medal in it. He looked inside and said, 'Oho! why, how's this?' and then took me into a little room back of the store part and asked me ever so many questions about how I came to find it, and what my name was, and where I lived, and whether I had any father or mother, and put down in a little book which he took out of his pocket a good many things, I s'pose what I'd told him."

"Stanley, Stanley," said Mrs. Camp. "It seems to me that I have heard that name somewhere."

"He was a real nice feller—man, I mean—mother, though he had such big black whiskers. An' he told me that the medal was his; 'twas given him when he was a boy for good conduct and knowing his lessons a whole year at school, and he wouldn't like to lose it. And then he told me I might have the papers, and could come every day and get the waste stuff if I thought it worth while. And I tell you, mother, it's bully—there, I didn't mean to say that!—it's a good place for such pickings. I saw ever so many bits lying about; and the clerks were sorting over things and throwing the covers down. Then I went down and sold my bundle of papers for twenty-seven cents, and here it is, mother."

"You did nobly, my precious boy, and you may find that this day's action, although its money's worth does not seem great, will bring about some happy result for you; and I'm sure you must feel right glad about it."

"I do," said Norton.

"And, mother," said Sadie, "perhaps it will help to give Nortie a nice place, where he can get wages, and not have to run about the streets to find little jobs and pick up what he can. I hope it will."

"Oh, I'm so glad, too," said little Dell; "p'raps the man with the great big whiskers will be a papa to Nortie."

The older ones laughed merrily at this sally of Dell's, and a gleam of happiness brightened their hearts, and suspended for the moment the realization of their poverty.

H. S. D.

(To be continued.)

HELPS TOWARD BEAUTY.

"Where does beauty's center lie,—
In the heart or in the eye?"

IF in the heart, then there must be something to please the eye, or admiration is lost in regret; if in the eye, then the soul must speak to the eye, or the charm can not last. Beauty appeals to the cultured taste, not in part, but as a whole. One's highest ideal must be approached, if not fully realized. A flaw or incongruity may so mar as to pain instead of pleasing. Man first seeks to please the eye, and then to satisfy the heart. He is fascinated with a pretty face, and in imagination endows it with all of the qualities of mind and heart which he deems most essential to complete the picture; but in vain he waits for some demonstration of these sentiments, until familiarity reveals prominent defects of character, and his admiration is turned into pity or contempt.

Some of our great men have chosen their wives from the belles and beauties of their clique. They sought to please the eye before the eye was sufficiently cultured to recognize real beauty, and their life-work had been trammeled for want of that appreciation, companionship, and support which only a wife can give. A gentleman in Vermont, on one occasion, when mortified by the weakness displayed by his wife, as she left the room, made the humiliating remark, "My wife is pretty, if she is a fool." When the greatest men—those who would make the most desirable husbands—show such weakness in the choice of wives, and when women are educated to look upon marriage as the chief object of their existence, is it surprising that women resort to those artifices calculated to make them acceptable in the best market; or that men, having chosen a pretty face as their ideal of womanly perfection, should form a low estimate of her? In a public speech, Calhoun made a sweeping remark in reference to the weakness of woman's character, whereupon Gen. Butler arose, and, apologizing, said: "Calhoun speaks from the class of women with whom he associates."

Ladies have been told that ill-health made them look interesting; and, with the view of appearing refined and delicate, they have

excluded the sunlight from the drawing-room, and veiled the face, like some sensitive exotic, whenever exposed to the out-door air, and when the effect is not perfect they charge Nature with having given them poor skin, and use all manner of cosmetics to cover the defect. One Sunday, at church, my attention was called to a young lady who ate cloves to make her skin white, and my companion said: "Doesn't she look *awful?*" In less than a year I was told that she had died from the effects of eating cloves. It is but a short time since the small, wasp-like waists were considered perfection of form. A man was proud to say he could span his wife's waist with his two hands. And, to attain this model form of beauty, tight lacing became the rage. The form must be pinched to the least possible size. A beautiful figure was desirable at any cost; and, on the principle that "one might as well be out of the world as out of fashion," many lives have been forfeited, and many constitutions wrecked. You have only to compare the fashion-plates of to-day with those of a few years ago, to see the change that has been wrought in the estimate of female beauty. Woman never had the opportunity to study anatomy and physiology until recently, and now she is beginning to comprehend the structure and use of her own body.

That "knowledge is power" was never more aptly applied, for it is the only power that can redeem the world from its follies. In proportion as woman has had an opportunity to gain practical knowledge, she has not been wanting in tact to apply it. She can now realize that a fully-developed waist enhances the beauty of the whole person, and is a necessity to grace and ease of manner, and gives a healthful, magnetic influence. One must comprehend a tangible reason for the fatal consequences of error before he can make the necessary effort to save himself. The principles of phrenology and physiognomy, by educating the mind, have enlarged our conceptions of true beauty in the "human face divine," and man is no longer the dupe of a pretty little mouth and doll-baby face.

Beauty speaks not to the eye alone, but to the intelligence; and to those of taste, culture, and penetration of character, prominent and well-defined features, instead of being ugly, are considered marks of beauty, because they portray strength and efficiency of character. As the mind develops under the light of progress and culture, it demands the real, and naturally supposes the artificial to conceal some prominent defect. Sunlight, out-door air, and exercise, are Nature's beautifiers. They impart the glow of health, which is far more fascinating than the finest tints of cosmetics.

The following is supposed to be the prayer of a plain woman: "I would be beautiful, not to attract the gay world's gaze, nor to mingle in its proud throng, to whom all offer homage; but I ask the beauty of a pure and noble mind, whose ornaments are simplicity and truth, to sympathize with others in their sorrows."

Yes, ask the beauty Nature gives, and you will attract the gay world's gaze, though you mingle not in its proud throng to whom all offer homage. Seek health, and your beauty will be a rare type, which combines with a pure and noble mind, and will adorn you with simplicity, a cheerful face, and a happy heart, to carry sunlight to the hearts of others.

MAY CHAPMAN.

AN EXPERIMENT.

"TO go, or not to go, that is the question," said bright little Mrs. Gregory, one August morning at the breakfast-table.

"Go, by all means," said the husband, breaking a roll.

"But it is so much work to get ready. I don't feel well enough to make the effort."

"Don't be foolish, Emma; you will be well enough, as soon as you get out of this house; you haven't eaten enough to keep a chicken alive, for the last week; you are tired out with care and monotony."

"If we could go straight off without getting ready," I said, "there would be some fun in it."

"You can if you choose. Women make

half their troubles; pack a traveling-bag, and start to-morrow afternoon." Emma Gregory looked wistfully into my face.

"I will, if you will," I said. "We have been school-girls together, and many a wild frolic have we inaugurated, without stopping to 'get ready.'" I saw by the brightening of Emma's eyes, that the old spirit was rising.

"Do you really think we could go off that way?" she asked.

"Of course; what is to hinder? Surely we dare do it. You are not afraid of Mrs. Grundy, I hope."

Emma's spirit was piqued; to suggest that she was afraid of anything or anybody, was to put her on her mettle.

"I'll go," she said, with an emphatic toss of the head; "but we've not a minute to lose!"

Already I felt myself stimulated by the mere thought of a hap-hazard journey. No trunks, and no destination! How delightful; as for Emma, worn out as she was, she ran, singing, up-stairs, gayer than I had seen her for weeks.

"I've made out my programme already," she said, when I followed her, a few minutes later. "My second best black silk skirt, with gray over-skirt and basque for traveling, linen duster, and water-proof in shawl-straps, for emergencies, a bag containing linen, under-collars and cuffs, handkerchiefs, and a couple of nansook over-dresses, for hot mornings. A hat, half rustic, with a scarf of veiling, two or three paper-covered books."

"Brave," I replied; "we might start in two hours, if we choose. The only trouble will be how to pass the time between now and to-morrow afternoon."

"Won't it be jolly," exclaimed the little woman, ignoring my remark altogether. "We will go up the Hudson to-morrow night in the moonlight, and enjoy it as we used to do when we were on our way to school."

Well, we carried out our plans to the letter. We packed according to Emma's programme, started for Albany on the *St. John*, and forgot the moment we were in sight of the Palisades, that we were getting toward middle-life, and had responsibilities. As we steamed along, watching the soft, rosy light on the green landscape, Emma said: "I shouldn't have taken any journey this summer, if a fortnight's dress-making had been the condition. But I never dreamed that we poor slaves could snatch freedom at this easy rate."

"'Who would be free, himself must strike the blow,'" quoted I, rousing from a revery. We floated on; the pink light faded out; the dusk deepened, and the crescent moon shone in the blue heavens. All the little waspish cares that had stung us into irritation, had been left behind in the hot, worrying city. How insignificant they seemed, now that we were out of their reach. How strong our spirits had grown already, in this new atmosphere, with nature's peaceful beauty winning us so tenderly. We were silent a long time, really and truly resting. Every moment we grew more refreshed, more in harmony with the serenity of the night, a long time communing with our own hearts. The moon sank toward the Highlands, and lost itself behind the highest peak, to emerge again with weird effect, as we passed on.

"Why don't we do this oftener?" burst out Emma at last, in her abrupt way.

"Because we are fools," I said, "and wisdom is not in us."

We went on planning then for the rest of our trip, and before we went to sleep, we arranged a card something like this:

From Albany to Saratoga, where we have friends, living in a quiet cottage; draughts of mineral-water, and as many drives as we wish; the Adirondack Railroad and stage to Schroon Lake, a trip across the lake to Schroon village, where we have friends again; a private conveyance through the wooded roads, from point to point, to North Elba; a few days in the wilderness, if we meet the right party; Lake George; and home.

All this we carried out, and the namby-pamby creatures that started for Albany on a certain hot night, were lost somewhere on the road. Certain it is, they were not seen again that summer.

MRS. M. F. BUTTS.

YOUTHFUL DISREGARD OF REPROOF--ITS TENDENCIES.

"THAT boy will break my heart!" was the passionate exclamation of a respectable-looking woman, as, with an appealing look, she addressed a strange gentleman who passed by at the time. A large, overgrown boy, of more than fifteen years, had leaped over the fence a moment before, and now, feeling himself beyond her reach, stood laughing defiantly at his mother, who had undertaken to reprove him for some mean conduct. Without making reply, the stranger turned a severe look upon the boy, which had the effect of checking his mirth and changing his color a little, and then advancing to the rails, and resting his arms upon them, related the following story, which might have been profitable to both his hearers.

"There is, perhaps, nothing more painful than to see children, and especially large boys, who ought to know better, uncivil and disrespectful to their superiors, but particularly so to their parents. When I was a boy myself, I regret to say I fell into the very same sad fault, for which I was not alone blameworthy. I was considered remarkably smart for my years, and my singularly wise sayings and doings delighted admiring friends—I suppose I was looked upon by my parents as a young Solomon. They generally brought me into the parlor for the express purpose of entertaining company. But I remember that I was wise enough to understand and mark well all the praises they heaped upon me. All my wisdom was gathered from my friends, and yet they gave me credit for originality in everything I said or did. By these aids I soon discovered my great importance, and this made me very impertinent—a pest and a scourge to my parents.

"When I had grown up to the age at which I ought to have been a pleasure to them, I was disobedient and sadly disrespectful. When I think of the irreverence I was guilty of, and which they tolerated in me for a moment, I feel to this day crimson with shame. And if I thought it could make amends for my youthful vileness, I should like to undergo now the floggings which I ought to have received then. I was permitted to call my father such slang names as 'governor,' 'the boss,' 'the old man,' 'John,' and such like, to his very face, and he heard it good-naturedly, and laughed. The most sacred of all names, mother, was seldom applied to her who loved me more than any other human being. I usually called her 'the old woman,' or 'Mary,' humorously, of course, and thought it sounded well.

"This bad training showed on me everywhere else. At school, the teacher was a firm man, a first-class disciplinarian, and kept me in my place well; but I disliked him for what I styled his severity, and behaved as disrespectfully and disobediently as I well dared. I was afraid of an open conflict with him, knowing that, in that case, I must have fared poorly. In secret, however, I did what I could to disaffect the other scholars and make them disrespectful. In this I succeeded admirably, especially among the larger boys. We could all plot mischief against him, and sneer at him behind his back. His rebuke made us angry and revengeful, and we consoled ourselves with the hope of paying him for it when we grew up. In the meantime we enjoyed ourselves delightfully in making game of him, much to the entertainment of the scholars. I was the prime mover in these annoyances, and it never occurred to my mind that my heartless conduct would receive a sudden and unexpected check.

"On one occasion he reproved me. Thinking myself master of the situation, I tossed my head in defiance, and sneered contemptuously, looking for the approval of my rude companions. But before I had time to think what I was doing, the teacher made my ear ring with a blow of his open hand. I staggered a little, but instantly recovering myself, and shrugging my shoulders in contempt, dared him to repeat it. He commanded me to leave the room. Glad of the opportunity, I went, and closing the door with an impudent farewell, ended my school education.

"In Sunday-school I was even worse. I knew that my teacher had no means of en-

forcing his instruction except by moral suasion. I was irreverent, even in the most sacred things. I turned my pious teacher's instruction into ridicule to make the others laugh. More than once I used bad language to his face, and I am now convinced that he was a man of more than ordinary grace, or his temper could not have brooked my conduct for a moment. Yet strange to say, I never knew of his having made any effort to obtain my removal out of his class. I think his prayers were answered, however, by my suddenly leaving the place. I went to business, and was there but a month when my bad manners were directed toward my employer. He told me quietly that I might go home to my father. I went. I tried several other places, with a similar unhappy result—*unhappy* for me; *happy* for my employers.

"I had now grown to be a young man, and knew that I was losing my time, that I could never be worth anything in the world. In weeks of despondency I had time to reflect. I saw that I had been turned out of school for my insubordination; that I had been disrespectful to my Sabbath-school teacher, though he desired my best interests; that my ill-breeding had turned me out of three or four situations, and prevented me from ever occupying others. I next saw that if I ever expected to do well, I must govern my temper, suppress my insufferable pride, which had developed by this time into imprudence, and practice obedience and respectfulness to my superiors. The disgrace of having been turned out of several situations, to the certain knowledge of my acquaintances, mortified me. To friends I explained when opportunity afforded, that it was not my fault, but that of tyrannical masters; but no use; they had their own opinion, which was the correct one. My ill-fortune had its good effect upon me. After the exercise of patience and practice of self-culture for a long time I succeeded in obtaining another situation. When entering upon it, I made up my mind to try better conduct, and be as respectful as possible to all around me. I was able to keep my place this time, and learned that steadiness, honesty, and respectfulness to superiors were indispensable to a young man's success.

"Young man," he continued, "if you wish ever to prosper in the world, you must begin by obeying the Fifth Commandment, which is, 'Honor thy father and thy mother, that thy days may be long upon the land which the Lord thy God giveth thee.' If you neglect this, take care that you come not under the curse which declares, that 'The eye that mocketh at his father, and despiseth to obey his mother, the ravens of the valley shall pick it out, and the young eagles shall eat it.'"—*N. Y. Observer.*

A TEMPERANCE RALLY.

LET us rouse with one great effort
And dethrone the rebel king!
He has bound us down to thraldom;
Let us off the shackles fling.
Let us be a free, free nation—
Rise above king Alcohol.
Let us pray, and pray unceasing
For his everlasting fall.

Let us labor! Faith and labor
Must at last win sure reward.
Every bondman is our brother.
On to battle! prayer for sword.
Gather, gather to our army
Youthful, aged, great and small,
That we gain a glorious victory
Over old king Alcohol!

Let us prove by patient pleading
How we love his subjects, slaves.
Let us gently, firmly lead them
Up to where redemption saves.
Let us all the tippling customs
Frown upon and trample down,
Until every man's a freeman
Waiting an eternal crown.

S. L. OBERHOLTZER.

THE BEST FRIEND.—The most agreeable of all companions is a simple, frank man, without any high pretensions to an oppressive greatness; one who loves life and understands the use of it; obliging alike at all hours; above all, of a golden temper, and steadfast as an anchor. For such an one we gladly exchange the greatest genius, the most brilliant wit, the profoundest thinker. —LESSING.

Department of Literature, Science, Education.

True philosophy is a revelation of the Divine will manifested in creation: it harmonizes with all truth, and can not with impunity be neglected.

WHAT IS THOUGHT?

THE idea embodied in the word thought, like the idea embodied in the word life, while it conveys to the mind of him who hears it a certain definite impression, is an intangible something which we can realize as an entity, but which defies our efforts when we seek to imprison it in words. All attempts thus far to frame a definition of life that shall truly describe it, have resulted only in the presentation of a few striking phrases that require a long explanation to render them clear and intelligible. And to seek to define thought as fancy, reflection, idea, or by any other term, is only to substitute one word for another without apparent gain.

Yet thought may be regarded as the total outcome of the action of the brain, as life is the total outcome of the forces evolved by the tissues of the organism; but this view does not explain what thought is, and leaves the interior process as obscure as before. When we can know what thought and life really are, we will have solved the mystery of being—passed beyond the veil that shuts us out from the great unknown.

There is no other path of investigation, or branch of scientific research, which deals so intimately with our essence, with the inmost I am, as that which studies the processes of thought; that seeks to unravel the why and how of the brilliant play of fancy, or to explore the minutiæ comprehended in a train of reasoning, and none which offers more fascination to the naturally reflective student. From the earliest time the operation and working of the mind have been a favorite subject of speculation, and to none more than to those who, ignorant of the composition and structure of the organs of thought and of the laws which govern its action, have only succeeded in befogging and involving in greater mystery an already sufficiently obscure subject. In the primitive ages, and for a long period thereafter, thought was held to be (as was certainly a natural conclusion on the part of those who could not conceive that anything so intangible and fine as the mental manifestations could have their birth in the gross material) the direct inspiration of invisible spirits, good and bad, which surrounded man. And the same idea runs along the record of the race down to our own time.

It is now generally conceded, by rationalists, that thought, under which head we include all the functions the brain is capable of exercising, as judgment, will, fancy, memory, etc., as formulated into words or actions, is the result of the physical action of the brain cells. It does not seem possible to conceive of it as being simply automatic, and yet this is what we must come to, if we accept a merely materialistic view. That the brain is amply sufficient to formulate into words or actions the shadowy conceptions that rise, there is no reason to doubt; but from where and whence do these shadows come? Is there not, must there not be, back of the brain, considered as a mass of nerve cells and fibers, a real *ego* that makes the individual and controls this material agent?

The nervous system of animals, and we might add of some vegetable organisms as well, is constituted like the other tissues that go to make up their entire structure of cells of varied forms. But we may, in general terms, consider it as consisting of nerve centers for the generation or the receipt of impulse, and of nerve cords for the

transmission of the impulse, received at either extremity. In the lowest animals this is all there is of it: one or more ganglia or nerve centers, from which radiate two or more nerves or cords, and this low form of nerve apparatus may be sufficient to carry on the one function of such life, nutrition. But as we rise in the animal scale, the ganglia increase and begin to group themselves around definite centers. The nerves become more numerous, until we find the ganglia becoming endowed with special functions and forming the organs of special sense, and uniting to form a brain. In the brain of a fish we have very little else than a series of these ganglia, one pair belonging to each principal organ of sense. Thus we have in front the ganglia of smell, then the ganglia of sight, then the ganglia of hearing, and the ganglia of general sensation. These constitute almost entirely the brain of the fish. There is scarcely anything in the brain of the fish which answers to the cerebrum of man. The cerebrum in most fishes is a mere film overlaying the sensory tract, but in the higher fishes we have it larger; in the reptile we have it larger still; in birds we have it still larger; in the lower mammalia it is larger still; and so, as we ascend to man, this part increases in volume and complication.

The experiments made upon the lower animals by the removal of the cerebrum, as well as the dawning and gradual growth of the intellectual faculties as we ascend in the scale of life, from the fish to the higher mammalia, all tend to locate the seat of the higher, intellectual faculties—thought, will, and consciousness—in the cerebrum. The cerebrum is, in fact, the brain, and the underlying ganglia are but the machinery through which the outcome of the brain finds expression—the seat of automatic reflex action, the irritation from the brain proper being one of the *stimuli* to which it is their function to respond. We shall thus be led to consider the actions of all animals below the grade of the fish, wonderful as they are, and simulating so accurately the manifestations of a reasoning entity, as entirely automatic; as simply reflex action, initiated by an irritation at the peripheral extremity of the nerve. If this be the case—and all the evidence thus far collated goes to support it—the question arises: "If the seat of thought lies in the cerebrum, when and where in the animal creation does consciousness and personality enter in?"

We do not credit to the plant, or to the protoplasmic representatives of the animal kingdom (the inhabitants of that borderland in which both animal and vegetative life take origin), a personal consciousness or identity, any more than we do to the simple cells that enter into the formation of bone. Then at what point, and how, does the consciousness of being enter in? Does it come to some animal as a sudden burst of personality, or does it grow up gradually from a shadowy something, a shade of feeling, a mere film of consciousness?

It is a difficult thing to conceive of any personality either greater or less than what we enjoy, yet there must be both; and we would incline to the opinion, from the analogous increase of the other faculties, that below us the sense of consciousness fades gradually away, until the animal becomes an animated machine, performing its various acts in obedience to the various *stimuli* received from without.

We find the brain in man, the culmination of the nervous development, to consist, in addition to the sensory ganglia, of a mass of white fibrous tissue, overlaid with the gray ganglionic, and folded into numerous convolutions to increase the extent of surface over which the gray matter is spread, and that such increase is attended by a corresponding porportional increase in mental power. In the gray matter originate all the impulses which the white convey, but how yet remains a mystery. We know that in the ultimate cell originate all the actions of the organism, and in the brain cell nerve force begins, brain cells being the ganglionic cells, as a ganglion is a miniature brain; and it is doubtless through a re-arrangement of the position, or of the polarity of its molecules, that the force is evolved. It is believed that the transmission of a nervous impulse along the course of a nerve is effected by an electrical change in the position or the polarity of the atoms or of

the molecule of the cells; and this view finds considerable support in the observations made upon some of the "carnivorous plants." "When a piece of meat or an insect was placed upon the leaf of the plant, it was found that the transparent cells passing from the leaf through the stem, re-arranged themselves from the point of impulse inward, and that after such re-arrangement the movement took place." But this observation only shows something of the way in which the actions generally admitted to be automatic, are brought about. In the action of the leaf in closing upon and imprisoning the disturbing cause, we have a certain reflex action arising from a certain stimulus.

It may be that we have here the rudiment of the nervous system, which is to be developed through the chain of animal life until it ends in the complex brain of man; but as yet there is no trace of any reasoning power, nothing that indicates the presence of an *ego*, or of a conscious individuality in the plant. In the higher forms of animal life the automaticity of many actions remains, but they must be held the result of conscious or unconscious education. The hand of the skilled artisan that moves so deftly in the execution of its accustomed work, does it easily and gracefully because the nerve centers have been trained by years of conscious effort under the direction of the will, until the impulse generated by the accustomed stimulus sets in motion the usual train of actions, and it is carried on in obedience to the law that "Force moves ever on the lines of least resistance." Setting aside the consideration of the action of certain centers, such as those presiding over the functions of organic life, and which are not pertinent to, or involved in, an inquiry into thought, we must accept the conclusion that the present state of knowledge upon this subject does not warrant us in believing that the brain is sufficient in itself to produce all the mental phenomena, and that there is something beyond it to which it is subject, and which constitutes the personality of man. To concede otherwise is to believe that, in one instance at least, nature is inconsistent and untrue to itself, and in direct contravention with every other teaching. An idea, a conception arising in the mind, excited either from without or from within, becomes the stimulus of a new phase of thought. By a sense of the inefficiency of the working of some of life's machinery the mind is aroused, and the thought goes out into the region of the ideal—that unsubstantial region peopled with shadows, but which the magic wand of genius transforms into what we accept as living realities, and from which may be evolved a remedy for an existing evil.

In pursuit of this, the mind, the brain, thought—what you will—is forced to travel in obedience to the promptings of the complex, subtile essence *I*, through the paths of induction and deduction, separating and combining, weighing and comparing—in a word, thinking.

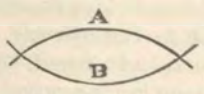
B. F. UNDERWOOD, M.D.

DISPERSION OF SILVER AND GOLD IN MANUFACTURE.—On the closing up of the Smith & Rogers extensive silver-plating concern in New Haven, preparatory to its removal to Meriden, the floor of the plating-room was taken up, burned, and the ashes analyzed, with the result of procuring pure silver to the amount of nine hundred and eighty-one dollars. This result is not so strange as appears at first sight. The precious metals are capable of extreme volatilization under heat, becoming mere vapors, which may be condensed, resulting in the production of the metal in a pure form. But, even without heat, the particles of gold and silver are made so exceedingly fine in the process of the manufacture of gold and silver goods, whether solid or plated, that no devices for saving the material abraded or thrown off in the various manipulations are entirely effectual. Even in the Government assay offices, the soot deposited in the chimneys from the melting of the crude metal is valuable; and in most manufactories of articles of gold and silver the proprietors do not allow their workmen to retain their work-clothes when worn out, but pay for them a price generally sufficient to procure new garments—an old tattered vest belonging to a bench workman sometimes being valued by the employers, even when in rags, at twenty dollars.

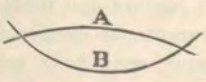
THE PSEUDO-MANIAC, OR CONSTITUTIONAL LIAR.

IT is now sixteen years since I first located a sign of the born liar on the upper eyelid. So far as I know, I had no prior teaching in the matter. Since then I have added four or five more points. I think I have now studied the case so fully as to warrant putting it into print. I turn to an old friend, the PHRENOLOGICAL JOURNAL, for help; and if I mistake in my claim of discovery, or in truth of statement, I ask for criticism and correction. A *flattering* school-mate was my first study! Since then many have been examined. No audience of a hundred lacks several, even though they be church assemblies—those most seen by me, for I am a "preacher of righteousness." I find physiognomy a help in my ministry, for "the bottom of every sin is a lie!" Or, as the "Autocrat of the Breakfast Table" says, "A lie is the handle that fits every sin." "All unrighteousness is sin," says St. John. There are six signs hung out by this "child of the devil." Three are of form; two are of complexion, and the other of action, or rather, inaction. That is, they are distinctively and severally such; for action, or expression, necessarily accompanies form and complexion.

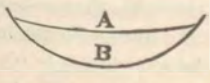
First, then, of the three *forms*. A drooping or down-drawn upper eyelid: hanging as far down as the pupil. The normal eyelids are either the arcs of the same circle, or the upper eyelid is the arc of a smaller circle. In the pseudo-maniac, the upper eyelid violates this rule, and instead of being in this form—



it shows a greater arc—



or worse—



See *a* in each case. It further and chiefly presents the appearance of being drawn down at the outer end. This, of course, is the reverse of the Mongolian eye, that turns down at the inner end. Then, too, the eyelid beneath the eye-lash is often thickened and greasy. When this drooping lid is examined, deep, oily creases, extending lengthwise, frequently appear.

See the picture of Antiochus Epiphanes, called by the Greeks Antiochus Epimanes, or crazy, in Smith & Barnum's "Bible Dictionary." When I first saw his face, I said, "That's a constitutional liar;" and turning back, read, Daniel x. 21, "He shall gain the kingdom by *flatteries*." See also verses 21–27 of the same chapter, and "Newton on the Prophecies," pages 282–292, etc. Look at that eyelid. Look also at the evident struggle to "make the worse appear the better part." He elevates this eyebrow in order to lift up the curtaining lid, and so wrinkles the brow just at the curve of the brow back on the side face. This is the second form sign. It gives a weak expression to the forehead and eyebrow.

The third form is about the mouth. He smiles no higher than the wings of his nose. Around the mouth, stretching from the wings of the nose, are circular lines, often quite deep. This may be accompanied by an *uncertain* action of the lips.

As to *complexion*. On the cheeks, between a circle drawn from the wings of the nose to the outer corner of the eyes, is a faint bluishness. As you look the crazy one in the face, there is an evident shrinking, ineffectual look. It strikes you as a conscious hiding of falsity. This bluishness is not permanent. It also must not be confounded with the blue color caused by certain diseases—especially that of an Onan, or that caused by dissipation, or "watchings oft." The liar's hue covers more surface than these. It is of the cheek, not of the nose.

There is a second hint of complexion on the eyeball. The white of the eye appears of a pale dead blue, sometimes veined, and I believe the pupil is small, from which rays seem to cross into the iris. Of this radiation I am not very sure; but an observer

sees, if not the "cracked eye" of the insane, at least a hair-like radiation, with an oblique cast just there. This eye is never prominent; the sign on the eyelid being only over prominent eyes. There are thus two classes of eyes to be observed—prominent and sunken eyes. The covering is not so marked in the prominent, except in very vile cases, and the creasings are always marked in them.

The sign of action. These people seldom or never shake hands. They will surrender the hand to you, and you can exhaust and disgust yourself with the soft thing. They are engaged elsewhere; mostly, I judge, in struggling with their consciences, or devising some story of imagination or plan of malice. It is to be remembered that not every person has all the signs mentioned. Some have only the drooping eyelid, which, by the by, I saw noticed in the PHRENOLOGICAL of February, 1872—an old copy that came into my hands last November. A lady is there mentioned as refusing to allow a servant to be hired who had it, as one evil mark. She did not name her sign. This drooping, drawn lid is most frequent.

The action of these diseased minds—for whole families are born that way, and I have sometimes thought one act of pre-natal deception might mark the babe—differs with their general structure and disposition. Imaginative ones will magnify and color all things in a harmless way, like the young presbyter's "barrels of tears." Gay and lively ones will tease and joke in falsehood. Others will flatter, both from complaisance, in weakness (wanting determination of character), or with a purpose to defraud others and build up themselves.

It is my desire that this sad truth should breed charity; so again I say, do not confound the signs described with certain signs of physical disease, or with the "intellectual eye" that peeps, nor with what the "New Physiognomy" calls the "penitential eye," where the upper eyelid is represented as falling as low down as the pupil. I never saw such a case.

A seventh sign might be added, but I only suggest it. The pseudo-maniac has often, if not always, a soft, *creeping* voice—at least, false women have. Cardinal de Mazarin and Anne of Austria, as usually pictured, show themselves to be constitutional liars. She has the eyelid and he the cheek. See the cave-like projection of her eyelid, and his hanging, struggling lids, with vacant look below them. No wonder it was hard to tell Mazarin's progenitor. I will wager that he told his birth to suit his audience. No wonder he lacked mighty Richelieu's *strength!* Anne's form and her liar sign put to rest the question of her unchastity.

ALEX. M. DARLEY.

Del Norte, Colorado.

RECOLLECTIONS OF A PRACTICAL PHRENOLOGIST.

No. I.

IF all the queer and interesting facts which occurred in the experience of the writer in his application of phrenology, during the last thirty-five years, could be recorded, they would furnish to the reader a fund of interest and amusement, if not instruction. Of course the practical phrenologist never finds out one-tenth of the interesting points which he makes, or the sharp hits which his science enables him to give. They are not brought to his knowledge historically. The present object is to recall and record a few of such incidents as may be thought worthy the reader's attention.

In 1839 I was making an examination for a young man in Pennsylvania. He was of German stock, had a round, low head, and was very strong in his propensities and passions. An elderly man came in and sat in a distant part of the room, as if waiting for his turn to be examined. Noticing that the young man bore special resemblance to the masculine side of the house, and did not resemble the mother's, I remarked: "You take after your father." "Yes," responded the elderly man; "he took after me with a club last week."

I did not explain the purpose of my re-

mark, but descanted on the enormity of his conduct, hoping it would be of service to him.

During the same year, at the close of a lecture in New Jersey, a man was brought forward for public examination by a committee appointed to make such selections. Running my hands over his head I discovered that he was a most dangerous character, and liable to manifest his anger in a fierce and ungovernable manner. There seemed to be a great interest in what I was expected to say, for five or six of the more influential and important men of the audience left their seats and came up to the platform, sitting on the steps and standing about. My first remark was: "I will esteem it a favor if the audience will permit me to dismiss this subject, and will introduce some other person, for I dare not express just what I think of him." This was accepted by unanimous consent. Especially was it approved by the gentlemen who had gathered around the platform. I afterward learned that the man had just completed a term in the State's prison for manslaughter, and that he was considered a very dangerous man, and these gentlemen had come around the platform to protect me in case of necessity, as they had no doubt the man would rise against me if I told him the truth.

COLOR SMALL.

A man was described as having Color very deficient. The carpet of the room where he was sitting was distinguished for its very bright and bold colors. Pointing with his foot to a patch of most brilliant scarlet the examiner asked the subject what the color was; and he turned his head from side to side, and studied the carpet, and replied: "Well, that I judge to be a kind of brownish, reddish, greenish color."

Another man was described in public as idiotic in Color, and he stated to the audience that he was a sportsman, and thought he could recognize a bird as far in the air as any of his acquaintances, and know by its form and motion what the bird was, showing that his eye-sight was clear, sharp, and strong; but he could not tell green from red. All colors to him, he said, had a lightness and a darkness, according to the amount of coloring matter they had in them, just as crayon or india ink work presents lightness or darkness according to the amount of coloring matter that is applied. So that red did not seem red to him; blue was dark, brown was dark. Each was simply removed a certain degree from whiteness. And it is well known that the camera represents in the photographic picture, red as black, and blue shows very light. Let a lady have a dress trimmed with red and blue, and the red will come out black in the picture, while the blue will come out nearly white, showing that the camera recognizes colors only in the nature of lightness and darkness.

Two brothers were examined in Whately, Mass., in 1842—Dr. Harwood and Colonel Harwood. The organ of Color was small, and was so described, and the gentlemen stated that they could not distinguish at half a dozen yards distant the ripe cherry from the green leaf which might hang behind it. Red and green, in short, looked the same to them.

KLEPTOMANIA.

The same year I was invited to a jail in Massachusetts by a young lawyer, who has since become United States Senator, to examine the head of a client of his, whom he was to defend on the charge of stealing. No information was given as to his alleged crime, and we described the young man as being abnormally acquisitive, or selfish in respect to possession; that he had very strong Veneration, and would manifest much religious devotion, and would be sincere in it; while with his small Cautiousness and Conscientiousness and very large Acquisitiveness he would be likely to trespass upon the rights of others in the way of stealing.

At this point the lawyer told the young man he might tell me what he had told him (the lawyer). He went on to relate that he had been in the habit of stealing everything, whether he wanted it or not; that he would go to prayer-meeting and take the opportunity of praying two or three times during the evening, and sometimes on the way home he would be inspired with a devotion-

al feeling and would kneel down in the corner of the fence alone, and have a season of prayer that was sweet and heavenly to him; and, as strange as it may seem, if he saw a hoe hanging on a farmer's fence, or a whiffle-tree chain, or pin of a cart neap, or a beetle and wedges, or an old axe half worn, he would steal it, and afterward it would occur to him that he could not use the articles, nobody would buy them, and his only way was to conceal them; and he remarked that there was a hollow log lying in a small piece of wood in which he had secreted the articles which he had stolen, because he dare not carry them home, nor offer them for sale. But it seemed to him that he could not help stealing them; the impulse came on, and though he was sincere in his religious devotions, and exceedingly happy in their performance, he seemed to himself to be left to the temptation of the devil when anything which might be stolen was left in his way.

A man called for an examination who was a minister, and at the close of a long and sharp analysis of his character, in which Acquisitiveness and Secretiveness had been described as strongly developed and very active, and also Conscientiousness and Cautiousness had been estimated as large, he seemed unwilling to go, but walked up and down the room for several minutes as if he had some burdensome question he wanted to ask and yet was afraid to ask. Turning to him I said: "Do you wish to ask any questions?" "Yes," he said, "there is one thing about me which you do not seem to have described. If you will tell me *that*, I will believe in phrenology." I instantly replied: "You have an inclination to steal, but probably manage to refrain from it." He opened his eyes with terrified astonishment, and giving me such a fierce gaze as will never be forgotten, remarked: "Sir, that is true. That is my trouble. I am a clergyman, sir, and hope I am a true one; yet I have all my life long been tempted to steal, and in my parochial visits, often have an impulse come over me to take something; and if left alone in a room I do take it; and sometimes it requires half an hour to find a convenient opportunity to get the article thus taken out of my pocket and back upon the shelf or table where it belongs. It may be a shell which every Sunday-school child in the parish knows; it may be an old hymn-book with a name written in it, and half worn out—things which I do not need, and could not use, if I did need them, without the theft being detected." And he remarked with tears tumbling down his face: "By the help of God I have been able, hitherto, to refrain from carrying away anything which I had thus, under the impulse, stolen."

Twenty-five years ago there was a well-to-do farmer's wife in Connecticut who had an impulse to steal only one kind of article, and that was blue stockings. If she were driving in the middle of a bright afternoon a mile from home, where she and the horse and wagon were well-known, and she caught sight of a pair of blue stockings hanging on a line in the yard with other clothing, she would stop her team, get out of the wagon, go into the yard right in front of the rooms where the family were working, and jerk those stockings off the line, leaving a dozen pairs of other colors, return to her wagon, whip up the team, and get out of the way. If she had been a stranger whose peculiarity was unknown she would have been followed and arrested and punished; but everybody knew that she had that queer monomania for blue stockings.

I examined a man's head and described him as being very fond of money, happening, of course, to use that term *money* instead of property, and it made quite a sensation because it was known that he would steal money, and he did not hesitate to talk about it himself. But he would steal nothing else, no matter how valuable, though he knew he might be detected.

There are numerous occasions for amusement to the practical phrenologist in consequence of people misunderstanding what he intends to express. As a companion piece to the young man "who took after his father," another case occurred in the same State. When a man has large Alimentiveness he is sometimes said to be very fond of a good dinner. I overheard a man talking about the wonderful accuracy of the examination which I had made of him; and one

thing, he said, he could not quite understand, and that was that I said he was very fond of a good dinner. Now, he remarked: "I am, as everybody knows, very fond of a good dinner, but I do not care much for my breakfast or supper." The truth is, he drank habitually, and used to go to bed mellow every night, and when he awoke in the morning he had no appetite for breakfast. He would take a drink of whisky, perhaps a cup of coffee and a bit of toast, and by dinner-time, say one o'clock, by constantly keeping his boiler warm with whisky, he would be ravenously hungry, and eat excessively, and that would last for the rest of the day; and going to bed again full, he would rise in the morning without much appetite, and not regain it until dinner-time came.

NELSON SIZER.

THE RUSSO-TURKISH WAR.

THE CZAR—THE SULTAN—THE COMMANDERS.

THE Russians are now south of the Danube, yet the conflict has as yet developed little of definite advantage to either side, although the opinion of eminent military men, who from their posts of observation in France, England, and Germany can survey the field with some degree of satisfaction, is altogether favorable to the success of Russia. This we would expect, after all that has been said about the "sick man" during the past twenty years. But Turkey has shown a remarkably pertinacious spirit from the outset, and the declaration that she regards the war as a



ALEXANDER II. OF RUSSIA.

contest of creeds, indicates that she deems her strength unequal to Russia, and her cause one which demands desperate measures.

Russia being the attacking party, and having many difficulties to meet in the march of her armies southward, not only difficulties arising from the topography of the country on both sides of the Black Sea, and from the necessity of investing frontier fortresses which the Turks have hurriedly strengthened, but also from the political



Abdul Hamid, Sultan of Turkey.

complications which her entrance upon the soil of foreign principalities gives occasion to, needs the moral and physical support of a greatly superior armament to advance victoriously. Besides, Servian, Armenian, Roumanian, must be placated, and in such a manner that the watchful great powers will not complain of her needless injustice to the little States lying in her paths to Constantinople. Our portraits furnish views of the representative men on each side.

ALEXANDER II. OF RUSSIA.

The Czar (pronounced tsar) is a man of fine presence, tall and well-proportioned. His head and face, according to *Le Monde Illustré*, which furnishes our portrait, evince characteristics which attract the observer, and embrace few elements of that despotic and unscrupulous sovereignty with which we have been accustomed to invest Russian emperors. Born in 1818, he did not inherit from the imperious, stern, and cruel Nicholas much of his nature, but more of his mother's gentleness and nervous susceptibility. Then, too, his German education fed his disposition to quiet reflection and the retired enjoyments of friendship and domesticity. We are told that he has few of the qualities of the leader, but is the Czar on compulsion, and, singularly for a Russian, averse to military show and customs. His head has not that width apparently which is essential

to the soldierly spirit, but is rather high and well filled out in the anterior region, giving him character for kindness, good-will, and the desire to deal fairly with others.

THE SULTAN OF TURKEY.

Abdul-Hamid II., the third Sultan to whom the "Faithful" have been required to offer their homage within a year, succeeded his brother Murad V., who was deposed after his few months' reign, on account of mental incapacity, and who subsequently committed suicide. Abdul-Hamid was born in 1842. His mother died while yet young, and he was adopted by a lady of Abdul-Medjid's (his father) harem, who made him heir to considerable wealth. Like his brother Murad, Abdul-Hamid led a very jovial life during his father's lifetime, but his stronger constitution enabled him to withstand the excesses which rendered his brother partly imbecile.

When Abdul-Aziz made the tour of Europe a few years ago, he accompanied him, and contracted a taste for French clothes and French customs, many of which he has introduced to his own household. He is exceedingly fond of maps—military, geographical, and statistical—the study of which is his favorite pastime. He refused to mount the throne until his brother's state was pronounced incurable, and, as a member of the Old Turkey Party, he advocated war to the death rather than any compromise which should bring about the disintegration of the empire. According to the London *Daily Telegraph*, he is thin and sinewy-looking, with bright, dark eyes, and a quick, flashing glance; is the husband of only one wife, living until lately at a small palace at Kiahat Hane with his two children "quite contentedly, *á la Francaise*, eating at the same table, and playing with the little ones like a model pater-familias." Nevertheless the Sultan is a stanch member of the orthodox Old Turkey Party, and is very punctilious in his religious observances, though rumor says he is not so strict a Mussulman as he professes to be.



GRAND DUKE NICHOLAS, OF RUSSIA.

His portrait does not show much energy, but, if anything, a disposition to personal ease and social entertainment. We are told that he dines shortly after sunset, takes no raki before his dinner, and no wine with the meal (herein showing a spirit of reform upon his early life). Once or twice a week he invites some members of the Cabinet to spend the evening with him, and talks to them upon

public affairs; other evenings are devoted to music. He has a special pianist, an Italian, attached to the palace, and sometimes the Palace troupe perform a pantomime for his amusement. He is personally averse to carriage or horseback riding, and it is seldom that he travels in such manner.

THE GRAND DUKE NICHOLAS.

Nicolawitch, second brother to the Czar, the Commander-in-Chief of the Russian Army, was born August 8th (July 27th, O.S.), 1831. He is Aide-de-Camp-General to the Czar, and Inspector-General of Engineers; Commander of the Imperial Bodyguard, etc. He married, February 6th, 1856, the Grand Duchess Alexandra Petrowna, daughter of Pierre, Prince of Oldenburg, by whom he has two sons, the Grand Duke Nicholas and Pierre. The Commander-in-Chief is a tall, handsome, athletic soldier, exceedingly popular in the army, having proved himself possessed of a high degree of courage, tact, and endurance.

Immediately upon the recent mobilization of the forces, he was transferred from the command of the troops around St. Petersburg to that of the Southern Army, now in the field. He is regarded as a type of the rough, vigorous, and warlike Russian of tradition. His culture is not high, but he is ambitious for distinction, and had much to do with bringing about the present conflict.

ABDUL-KERIM PASHA.

A stout-looking old war horse is this follower of the Prophet. Although too far advanced in life for active service in the field, he was deemed fit for the important position he holds in the army. He was appointed Minister of War by the Sultan immediately after the assassination of the Ministers of War and Foreign Affairs by the Circassian Hassan, on the 15th of June, 1876, and on the 9th of July following he assumed command of the Turkish troops operating in Servia, while Mukhtar Pasha took charge of those in Herzegovina. He is stout, heavy, and lame, but pleasant in manner, although inclined to be taciturn. His merits as a soldier are not considered by experienced judges, out of Turkey, as deserving of the important place he holds at the head of the Turkish arms, but he has enough of the strong and basilar elements of character to feel very much



ABDUL KERIM PASHA.

at home in prosecuting warlike enterprises.

THE TWO ARMIES.

A comparative estimate of the military strength of Turkey and of Russia gives the latter a great superiority. The Turkish army is made up of three classes—the Active, Reserve, and Sedentary—the first comprising upward of 200,000 men; the second, nearly the same number, and third, 300,000, in all 700,000. The regular army of Russia in time of war, according to recent statistics, is constituted thus:

	Officers.	Men.	Total.
Active service	21,557	845,483	867,040
Reserves	3,522	171,788	175,320
Dépôts	6,605	273,182	279,787
Local troops	12,773	350,866	363,639
Totals	44,457	1,641,319	1,685,786

Besides these, are the irregulars, of whom the Cossacks are the most important auxiliaries, in themselves numbering over 125,000. Their operations are chiefly conducted on horseback, being, as riders, renowned throughout Europe for their courage and adroitness. If the losses of the Turkish armies in the contest with little Montenegro be as great as has been stated, viz., upward of 26,000 killed during the contest of the summer and fall of 1876, the Montenegrin loss being but 1,000, how can the successor of Osman and Sulieman hope to cope with the power of Russia? Yet some observers predict a long struggle. Turkey fighting for her faith and for existence, will exert all her strength, bring to bear as far as she may all her resources, and be somewhat encouraged by the history of her past conflicts with the Sclave, to expect aid from one of her old Christian allies.

GROUNDWORK OF HEALTH.

USING the terms in a general sense—that person is more amenable to the law of ethics who has obeyed the law of hygiene. Taking this proposition as substantially correct, what follows? Necessarily that a healthy people will also be moral. This is a conclusion arrived at, not without many doubts and misgivings. The saying, that what we would like to believe is apt to influence our beliefs, is undoubtedly a true one. But what we want is facts—especially if those facts can serve the happiness and well-being of society.

Sociology is a good study, and we like to dwell upon it, as we like to look at any work of art—from the esthetic point of view. Ugliness may be united with health, but is oftener united with disease. The grand harmonies of nature, as they are unfolded, teach this. Civilization claims to be the best exponent of this unfoldment; but according to the evolutions of history, civilization, as at present interpreted, is slavery. There can be no desirable statute of intelligence so long as this interpretation is well grounded, and we have no reason to doubt the verdict. The rule-or-ruin portion of civilization is predominant yet, notwithstanding that it is nominally vanquished. You are counseled to tread lightly when walking over a smouldering volcano; we have the hardihood to disregard the caution. The money power is the power of slavery; and until sociologists can bring themselves to consent to this diagnosis, the patient will suffer. Self-knowledge, if thorough, is admitted to be universal knowledge, in its broad sense. The best wing of the money power is prepared to accept this definition, and is acting upon it. So the harmonies are in the ascendant. Weak-kneed people, of course, will say, "Trouble is ahead," but we do not believe it. Our all is staked on our judgment, and we have as much at stake as any one. This will account for the course we are pursuing in this matter of health.

Health is happiness, and, knowing this fact, we long since devoted our life and all we possessed to search for the key that would develop the talisman, the philosopher's stone of hygiene. Our success has been commensurate with the time and patience bestowed upon the subject, and in these little papers we aim to give the world the benefit of our thought and experience.

Los Angeles. F. M. S.

HOW TO TEACH.*

FACULTY OF ORDER.

ORDER is said by the poet to be "Heaven's first law." If we look around us, we see that everything in creation is adjusted according to system. By observing its method, we learn to adapt ourselves to the affairs of the world. We study its arrangements, and know what to depend upon. To a child the blossoms of spring are a surprise, and the fruits of the summer and autumn are an equal surprise; the early frost and the fallen snow make him wonder, because he is not accustomed to them, has not expected them. After awhile, when he has learned something of the order of nature, he hopes the cold winter will be past and the balmy spring return, and the summer flowers, and singing of birds, and the happy autumn with its harvests. He gets used to the order of creation and Providence and looks for its changes. Those in whom Order is most developed adapt themselves most kindly to the order of things. They learn them quickest, expect them most pleasurably, and relate themselves to all the changes of life. Those in whom the faculty is deficient are always running their heads against the ways of Providence and the order of life.

We learn through the action of this faculty to look for all things in their season, and for everything according to the method of creation. Hence, we never look for corn in the ground, or potatoes on corn-stalks, or for corn to grow on trees. We never expect to "gather grapes from thorns or figs from thistles." When the silly hen has been cheated to sit on ducks' eggs, and patiently hopes to see them develop into the image of herself, she is terrified beyond measure when she sees her duckling chicks rush into the water for the first time. They have violated her idea of order. But when a duck has been deluded into hatching hens' eggs, she is amazed to see the little chicks refuse to follow her into the water. We do not know how much philosophy the hen may exercise in trying to study the physiognomy of her newly-hatched chicks—why they should have such broad faces, and such amplitude of bill, such breadth of foot, and such a wallowing gait; and though she does not stop to criticise nice distinctions in regard to hereditary transmission of form and quality, she knows the difference when they plunge into the water, where she herself dare not go.

ADAPTATION TO RULE OR SYSTEM.

In our disposition of affairs, we seek to have a place for things and things in their places. Cattle on a farm select a given place to lie down at night. Birds want a particular perch, and they are restless and discontented if another takes their place. One aspect of Order gives uniform methods of doing things, and a systematic, particular place for things. Another aspect has to do with the best rule for doing things. Many have the first kind of Order, a particular way of doing and a particular place for things; but they do not always have the best way nor the best place. Persons may be orderly and not tidy; others may be very tidy and cleanly, but not methodical. But when we see a woman who has a place for each plate and dish in her closets, we expect she

* From "How to Teach, according to Temperament and Mental Development; or, Phrenology in the School-Room and the Family." By Nelson Sizer, S. R. Wells & Co., New York, Publishers. Price, by mail, $00.00.

will see to it that they are clean and bright; though we have seen systematic and regular places for things when the articles were not tidy and cleanly. Some mechanics have everything mixed up and confused; they have finished and unfinished work together, and their tools are all mixed and confounded. Some men have their bench full of tools; they find with difficulty that which they wish to use, and are vexed because everything seems to be in confusion. Another will have a rack in which all his tools are kept, and when any tool is used it is instantly returned to its proper place. He neither loses time nor patience in hunting for his tools, nor are they injured by rough contact with other things. A housekeeper that can tell where to find any particular thing she wants, in any drawer, and in what part of the drawer it may be found, evinces this faculty.

ORDER CAN BE CULTIVATED IN SCHOOLS.

There is no place of human meeting and human work where disorder is more likely to be seen, or where order is more needful, than in the school. If the teacher have large Order, Ideality, Firmness, Self-esteem, energy, and patience, the school is a good field for their exercise, and their influence will show in great distinctness when perfect order is maintained. We do not mean a frigid silence, or a stupid fixedness; but when all motions are made in harmony, and every change is made with the graceful precision of military evolution; the movements in the dance, the gymnasium, or a well-ordered workshop, like the "music of the spheres," there is realized the ideal of Order. The utility and the necessity of order are sometimes eminently illustrated.

Suppose a hundred boys were dismissed at the word, each being in a hurry to get out of the room, what crowding and confusion will there be, requiring much more time to clear a room than if the school were dismissed class by class, and let them march out like soldiers. And how much more graceful and elegant is the orderly process. Sometimes when a school-house takes fire in a city, and there are, perhaps, 1,200 pupils in the building, some wise person from down-stairs comes up and quietly whispers the fact in the ear of the teacher, who then, with self-possession, and without exciting alarm, announces that there will be a recess for five minutes, and class No. 1 may retire, and Nos. 2 and 3 follow. They never need an excuse for going out, and by the time they are on the street they begin to wonder what the recess is for, and find out that the school-house is on fire. Otherwise, they would have been frightened, and rushed to get out of the room, upon the staircase tumbling over each other and over the banisters amid the wildest confusion, and, perhaps, a dozen of them would be trampled to death. If in churches, people would file out of the slips or pews next the door in order, and walk briskly out, the edifice would be cleared in one-tenth part of the time that it now takes, when all crowd into the aisles and everybody is in somebody's way.

Nature having established the law of order, we could not break it if we would, and if it were in our power we could not do it without serious damage to our interests.

HOME CULTURE OF ORDER.

This faculty should be cultivated in children at home. Let the three-year-old child have something to do; let him have a place for his playthings, and be taught to recognize this law of order. If a child could throw down his play-

things at pleasure, and have them picked up by nurse or servant, that child will become selfish as well as slovenly. But if it be required to put its things in the box or basket, or hang them up when not in use, and put away clothing and other articles, this faculty will become active and influential in the character, greatly to the comfort and convenience of all. The sloven is hindered, fretted, and annoyed by his own want of arrangement, though sometimes the desire for order on the part of others may annoy them and induce them to fret and scold. The pleasure experienced from order and neatness, and the pleasure and comfort the family derives from having everything nice in the house, will counterbalance, probably, all the fret and worry an orderly person may feel called upon to exercise. Slack-twisted and disorderly people have more worry in an hour in hunting for things they have mislaid, and in being vexed at people who "carry them off," than is the case with sharp, orderly people who are always trying to keep everything neat and tidy. Commend us, then, to a housekeeper that is tidy and orderly; who may grumble if people come into the house with muddy boots. Such persons will have mats and scrapers for the purpose of removing the dirt from the shoes before it shall be brought into the house, so that those coming in who are inclined to be tidy will find the means at hand for the purpose. Those who are tidy in housekeeping, and in keeping everything in its place, will make home at least worthy to be the abode of happy people. A kindly and good example will teach the family order. It is not enough to preach against disorder, or against persons for permitting or producing it. Orderly people are apt to scold those who are disorderly; but this is not always the best way to reform the slovenly. We once saw a man put his dirty boots on the velvet cushion of a car-seat. It was a new, bright car, and the conductor felt proud of it. He came along, and, asking permission, put a silk handkerchief over the seat, and told the man if he wished he might put his boots on that; but neither he nor anybody else in that car again, during that trip, tried the experiment of using a velvet cushion as a foot-stool, and the delinquent himself was not made angry. If the forty people in the car remembered it with as much vividness as the person probably does at whose expense it was made, it, doubtless, has saved many a car-cushion from that day to this.

MOVING OTHER PEOPLE'S THINGS.

Hotels and boarding-houses bear many marks of the reckless disregard of Order, as well as of the rights, interest, and comfort of others. The scraping of matches on handsome white walls, or those neatly painted or papered; the careless leaning back in chairs against walls or furniture, badly marring both; the putting of feet on chair-rounds, window-stools, fenders, or mantels, may be mentioned as marks of disorder, injustice, and ill-breeding.

It is said that "cleanliness is next to godliness." It is certainly a Christian grace to be cleanly and orderly. Those who complain of the rattle-bang boys who go slamming about and leaving everything in disorder, should early train the faculty of Order in their children; and they may, perhaps, regard it as a censure upon themselves if their children are not orderly. We once knew a farmer who, when he hired a man for the summer, if he found that the axe had not been left in the proper place in the wood-shed, but left at the chopping-block, where the new man had worked with it, he would wait till his man had gone to bed, when he would rap at the

door and call his name, and request him to dress himself and come down; and he would then ask for the axe, and when it was shown him, he would say: "I looked in the proper place, but did not find it. Will you please hereafter to put it there?" It was done good-naturedly; but that young man never forgot to leave the axe in the right place, nor anything else on the farm, while he stayed there.

NUMBER, OR CALCULATION.

The faculty of Number is necessary in the mental constitution. It enables us to perceive two, as distinguished from three, or any other number. It not only enables us to distinguish between the concrete idea of number applied to material objects, and the abstract idea of number *per se*. Individuality enables us to make a distinction between one thing and another thing, but it does not count the number of them. It might give us the idea of many, as we have when we look at a load of sand containing particles numberless; thus we measure sand by the bushel, by the load, by the quart, as we do grain. We count sheep, cattle, horses, and buy and sell them by number as we do eggs by the dozen. But beans, peas, and corn we cease to enumerate, and sell by measure; so many measures for so much money.

The faculty of Number seems to be manifested in some of the lower animals who are usually most intelligent. Crows have been known to recognize numbers as high as five or six. Other birds, less sagacious, may only know as far as two or three. If ten men enter caverns or ruins which birds inhabit, they all fly away from their nests and perch near by; if three men go out they all eagerly fly back. Their idea of number has been exhausted on three, and they seem amazed to find that some men are left and again retreat. Three more men going out, the birds rush back again, showing that three is the extent of their idea of number. Cats, when deprived of half a large litter, do not seem to appreciate the difference in number; but if five are taken away and one only left, the cat has an idea of the difference between one and six, and she will hunt to find that which is lost.

In ascending to the human species, we find that some negro tribes can count only to five and use no compound terms. They say five-one for six, five-two for seven. Others make shift by saying both "hands" for ten; both "hands" and one "foot" for fifteen; "hands and feet" for twenty. All above this is "many," or innumerable. The Esquimaux Indians have no idea of number above five, everything else is "many." The arrangement of our mathematics, while logical, as we all admit, is, when carefully examined by the light of Phrenology, apparently dependent upon the addition of one or more of the other faculties to assist the organ of Number. If mathematics be the doctrine of quantity, certainly Size and Weight must be brought into use, and in geometry and trigonometry Form and Locality as well as Size and Weight must be included. For example, we start with simple counting, using in the kindergarten blocks, beads, balls, and building-blocks; this is pure number; the why and wherefore, or the reason that two and two are not six. Then we have notation—translating the words into figures; here the perceptives come in, the immediate neighbors of the organ of Number; Individuality, to recognize the figures, and Form, to distinguish them by their shape. Numeration is justly linked with notation, as it is the converse—translating the figures into spoken or written words. Locality is also an accessory, especially in pointing

off periods, as hundreds, thousands, etc., and carrying these localities in the mind. With the succeeding rules we have the study advanced. Addition is properly placed first, as it is the easier, since it requires less mental effort to consider two quantities side by side and perceive their sum than to subtract one quantity from another, and perceive at the same time the original quantity, the quantity to be subtracted, and the result. In this process the reasoning faculties, Causality and Comparison, begin to act.

One step further is multiplication; here we have the multiplicand, multiplier and product, more complex than addition. The setting down of one figure and carrying the other to the next order of figures, or the setting down of a number of partial products, each in its own proper column, then the careful addition to give the complete product. All these complicated operations require the simultaneous carrying of several ideas, and involve a compound mental action.

The same is true of division, more complicated, perhaps. The studying of fractions, common and decimal, is still more complicated, as all teachers know.

They can easily carry out our idea for themselves. In the rule of three, and proportion generally, we have a distinct logical statement, viz.: as A is to B so is C to D, and, therefore, B C is equal to A D. Here we begin to see the utility of mathematics as a discipline for the mind. The study of square and cube root, taught, as they often are, by diagrams and dissected blocks, brings into play Form, Size, Individuality, Comparison, and Causality, as well as Number. All teachers will testify as to the difficulty of teaching these subjects successfully to the average pupil. In mensuration, weights and measures, and "concrete arithmetic" generally, if we may use the term, all the organs above named are occupied, and, at times, others. But it is in the higher branches that the aid of many faculties is demanded by Number. In algebra, for instance, application is made of principles demonstrated beforehand which must be held in the memory; again, the mind must be trained to appreciate instantly the time when the previous demonstrated principle is applicable to the problem in hand, so that the pupil need not work out the tedious problem every time to apply his knowledge in advancing him to new standpoints as he goes along. These statements, true of algebra *par excellence*, are equally true of those higher branches —impossible without algebra, as we know—the Trigonometries and the Calculi, together with applied mathematics generally. We are now able to perceive why mathematics disciplines the mind. Commencing, as we have seen, with a single faculty, the proper use of the science compels the brain of the scholar to use one faculty after another, until, as a climax, we find the perceptive and reasoning organs active and under control, which is the true object of education, to give the pupil a healthy, active, manageable brain.

Those wonderful calculators who have astonished the world, such as Zera Colburn, are generally not mathematicians, as he was not, though he had culture in that direction, and it was expected he would astonish the world; but as the higher organs of the intellect which comprehend philosophy and the relation of subjects were wanting, he failed. There are geniuses in language, poetry, memory, mechanics, who are born with a peculiar facility and power of manifestation, and those who can multiply mentally and work out arithmetical

problems faster than the best arithmetician can do it in the ordinary way on the slate, must be regarded as possessing an exaltation, or genius, in respect to figures, and they are exceptions, as other geniuses are.

Much of the business of life is intimately related to the faculties which aid us to enter into the science of numbers and mathematics.

A mathematical cast of mind requires that the person should follow something in which the exact and the mathematical can be made serviceable. We often meet with pointed illustrations of this. A man brought his son to our office for examination. They looked sad, discouraged, and gloomy. When the young man took his seat the father spoke in a sour sort of way, saying that he wished to know what that boy could do to earn his daily bread. After a careful examination, we replied that he could do anything, unless it was something like wood-engraving. They cast a quizzical look upon each other, when the father inquired why he could not successfully follow wood-engraving, we replied that he had so much Order and Calculation that he would want to fix a machine, or establish a rule, or use gauges to space off his work, and do it as by machinery. The father informed us that he had then just taken the boy away from a wood-engraver who had been trying for six months to teach him his business, who complained that the boy wanted to use gauges and rules, and was not willing to work by the eye. We advised the father to let the boy go at architectural drawing, or carpentry, where he would be required to work by mathematical rule, and employ mechanical ingenuity and artistic taste at the same time.

The organ is located back of the external angle of the eye, and when large, gives fullness and squareness to that part of the head.

SEEKING A SITUATION.

When seeking a situation do not propose to take an advanced post. Ask for a chance to *work*, beginning at the bottom. You may be considered qualified for something better, yet be placed at the foot to test your temper and fidelity—to ascertain if you will be "faithful over a few things," as a qualification to become "a ruler over many things." If you sweep, make fires, dust, do anything and everything promptly and cheerfully, you will be advanced so fast as you are seen to have mastered your allotted position. Grumbling at your lot, and asking to be put forward, will disgust your superiors, who are perhaps planning to obtain some one to fill your place that you may be put forward. Men like to manage their own business—dislike to have boys make suggestions as to their own occupation or pay. Plants are not put in large pots until, by healthy growing, they seem to have filled the small ones. If a puny plant were to tease the gardener for a large pot, or open-air planting, he would wisely say, "Fill the place you occupy first, and thus show your adaptation to a larger one;" or, in disgust, he would jerk out the feeble starveling and put a vigorous successor in its place. Many a boy has lost his situation because he whined for a post of duty beyond his present capacity to fill.

He who, in store or shop, begins at the bottom and learns how to do everything, and is competent to every duty, has his position and ultimate success in his own keeping; and he will be sought after by many, if it is known he is at liberty to accept of a new engagement. We have seen a faithful boy take a selfish man's place in a shop or store, having, of course, increased responsibilities, a more elevated position, and better pay than before.—*From "Choice of Pursuits."*

SELF-KNOWLEDGE THE FOUNDATION OF EDUCATION.

ACCORDING to the popular idea, education means the acquisition of book-knowledge, such as is taught in our schools and other institutions of learning. When our young men come home from college, where they have been drilled for several years in Greek, Latin, mathematics, and metaphysics, we say they are "liberally educated." And when our young ladies graduate from boarding-school well-disciplined in French, Italian, music, painting, drawing, etc., we call them "highly accomplished"—these terms, "liberally educated" and "highly accomplished," expressing the popular idea of education. But, to my mind, education embraces a far wider sphere than the mere acquisition of book-knowledge. The mind is not simply a *tabula rasa*, upon which may be inscribed any curious knowledge. Neither is it a store-house, in which we may store up the learning of the schools, as one would shovel grain into a granary. On the contrary, the mind is an active as well as a passive agent; and education consists, not only in storing it with useful knowledge, but also in developing its inherent capabilities. As the etymology of the word implies, it is a drawing out—a developing of what is in the man. It is not confined to the intellectual part of his nature alone, but embraces the moral sentiments, the animal propensities, the social feelings, and even embraces the development and proper care of the bodily constitution.

This view corresponds with the definition of education given by Dr. Caldwell:

"By education, in the abstract," says he, "I mean a scheme of action or training by which any form of living matter may be improved, and, by perseverance, raised to the highest perfection of which it is susceptible."

With this all-embracing definition before us, we may be able to appreciate the importance of a thorough knowledge of the human constitution in a correct scheme of education. The human body is composed of a number of organs and systems, each of which has its peculiar function, and is regulated by definite laws. Now, in order to raise our bodies to the highest perfection of which they are susceptible, it must be evident that a thorough knowledge of the various parts of which they are composed, of the laws which govern their development, and the causes which impede it, is of the very first importance.

Without this knowledge, we are as ill-adapted to develop our bodies successfully as a landsman would be to manage a ship. Before a sailor can make a successful captain, he must have become familiar with every part of the ship and every duty required of her crew. He must have studied the science of navigation; be able to take his bearing from the stars; be familiar with the dangers which lie in his course and along the shores which he intends to visit; know how to take advantage of every favoring breeze; and be able to foresee the storms while they are yet brewing in the heavens. The more he knows of all that pertains to his calling, and the more assiduously he attends to his duties, the more successfully will he manage his ship, and the greater will be the assurance of those who intrust their lives to his care that they will sail in safety.

Now the human body is a machine a thousand-fold more complicated than a ship; it is surrounded by dangers a thousand times more numerous; and it is just as unreasonable to expect to preserve it in health, and rear it to the highest perfection of which it is susceptible without a knowledge of its parts and the laws which regulate their activity, as it would be to place a man on board a ship and expect him to navigate the great ocean in safety, without any knowledge of the mechanism of the ship, the laws of navigation, or any chart to guide him amid the dangers of the deep.

Yet, if we look at the instruction usually given in our schools, and even in our higher institutions of learning, we will find it very deficient in this primal element of education. Reading, writing, arithmetic, and geography constitute the ordinary stock in trade of the district school, and, for men in humble life, it is supposed that a passable

knowledge of these subjects is sufficient to enable them to navigate their barks over the ocean of life successfully.

To those who are able to pursue their studies farther, grammar, algebra, and perhaps a little physiology and natural philosophy are added; while among the accomplishments are reckoned music, drawing, painting, and the modern languages. In our colleges and higher institutions of learning the chief prominence is given to Greek, Latin, metaphysics, and the higher mathematics. It is true that some attention is given to physiology, but it does not extend much beyond the mere learning of the parts of the human body, the number and names of the bones and muscles, and the functions of its various organs.

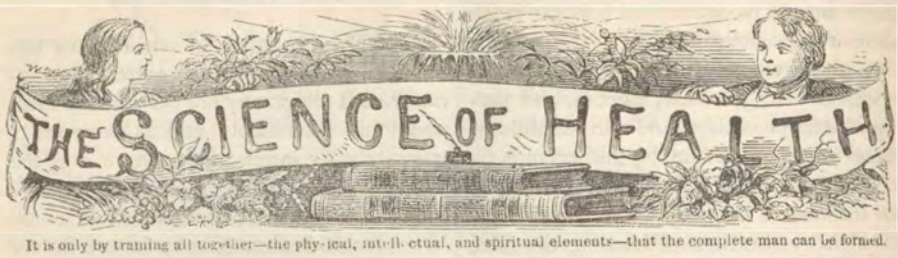
Thorough practical training in the harmonious development of all its functions, according to the laws of the constitution, taking in the hygienic agents of diet, exercise, sunlight, pure air, the influence of the body upon the mind and the mind upon the body, in our popular systems of education do not receive a tithe of the attention which their importance demands.

Yet, what is the object of education? Is it merely to accumulate ideas, facts, and statistics as a miser stores up gold, with no purpose but the mere pleasure of accumulation? Or, is its object to discover the laws and principles upon which the world and all the beings and objects which inhabit it are governed, with a view to applying them to the amelioration of man's condition, to giving him a higher conception of the object of his existence here, and a more lofty idea of the power and benevolence of that Being toward whose purity and goodness it is his peculiar privilege to aspire?

If this be the object of knowledge, then, obviously, a thorough acquaintance with our own mental and physical constitution is the foundation upon which it must be built. Without this knowledge we are mere blind leaders of the blind—seeking to use implements of whose existence even we have never learned, and to accomplish results without having any definite idea of the steps by which they may be attained. J. MC N.

THE TYPE-WRITER.

AMONG the latest of our modern improvements, the type-writer, phonography, and telegraphy are perhaps the most useful and prominent; and as these relate intimately to intellectual culture and the diffusion of knowledge, they stand pre-eminent in the line of utility and public benefit. We have had phonography in use in our office for nearly thirty years, and for the last two years this useful and excellent article, the type-writer; and considering the great amount of writing which it is necessary for us to do in making out written descriptions of character and in maintaining a large correspondence with customers, we hardly see how we could now do without it. A person familiar with its use can write about three times as fast as a good long-hand copyist, and nearly three times as much matter can be put on the same amount of paper, thus serving to lessen postage and save stationery, time, and clerical force. Short-hand writers are learning that it saves them a great deal of nerve-shattering labor as well as time in copying their notes. And it is contemplated by some of our county officials to copy deeds with the type-writer, thus putting the important matter in print instead of manuscript, and then binding the sheets into volumes for filing in the county register's office. It does not require more skill to run one of these machines than is required to run the ordinary sewing-machine; consequently it is not a difficult instrument to understand and operate, and the immense advantages which it affords offer great inducements to its adoption. We know many short-hand writers whose long-hand is poor and not well adapted to engross their work. To them, especially, we recommend the use of the type-writer, and many of them could afford to own one in order to obtain and hold a desirable situation. The price of the type-writer, complete, is $125. Any of our friends who desire to do so may order them through this office, and we will see that the selection is properly made.



It is only by training all together—the physical, intellectual, and spiritual elements—that the complete man can be formed.

THE VENTILATION OF SCHOOL-HOUSES.

IT will be well to consider our subject under two heads—First, the need of ventilation; second, the means to secure ventilation.

I. *The need of Ventilation.*—Pure atmospheric air is essential to health. Such air consists principally of nitrogen and oxygen, in the proportion of about four parts of the first to one part of the second. There is also a very small proportion of carbonic acid gas. Of these gases, the specific gravity of carbonic acid is greatest, of oxygen next, and of nitrogen least. These gases do not form a chemical compound, but a mere mechanical mixture, and they are as distinct in the air as so many grains of wheat and corn mingled in a measure [*Steele.*]

In the act of respiration, the oxygen, the life-giving principle of the air, is eliminated, and carbonic acid is given out. The proportion of oxygen gas which atmospheric air contains, is about twenty-one gallons in every one hundred; but after it has visited the human lungs, this proportion is reduced to sixteen or eighteen in one hundred, and sometimes lower. The lungs extract from one-seventh to one-fifth of its oxygen.

"The oxygen enters the cells of the lungs, and is absorbed by the minute vessels which spread over the cell walls. Within these vessels it combines directly with certain constituents of the flowing blood, and proceeds with it in its ceaseless current through the arteries and veins."

The first important function which the oxygen abstracted from the air discharges within the breathing animal is, that it helps to build up the solid substance of the muscles, cartilages, and skin. Its second valuable service is to combine with the waste matter of its several parts. By so combining, the oxygen renders soluble, and therefore easy to be removed, what would injure the animal's health if allowed long to remain within it. The third useful purpose which it serves, is to convert the fat, starch, sugar, gum, and similar constituents of the food, into the carbonic acid and water which are given off from the lungs [*Johnson*]. By this chemical transmutation, animal heat is produced. The inhalation of oxygen is much like throwing fuel into a furnace. Physical exertion causes more rapid and deeper breathing, hence the inhalation of a greater quantity of oxygen, and consequently a greater evolution of animal heat.

But while oxygen is thus essential to animal life, carbonic acid gas is its deadliest foe. "We exhale constantly," says Professor Steele, "this poisonous gas. . . . If means are not provided to furnish us fresh air constantly, we are compelled to re-breathe that which our lungs have just expelled. The languor and sleepiness we feel in a crowded assembly are the natural effects of this narcotic poison. The idea of drinking in at every breath the exhalations that load the atmosphere of a crowded, promiscuous assembly, is disgusting as it is noxious."

There are many incidents which clearly and forcibly illustrate the fatal consequences of breathing an atmosphere which has been exhausted of its oxygen, and loaded with this deadly fluid One of the most striking of these was an occurrence which took place in Calcutta in the year 1756, when one hundred and forty-six Englishmen were immured in a dungeon eighteen feet

square, having only two small windows on the same side to admit air. In six hours ninety-six of them had died from suffocation, after horrible sufferings; and in the morning, when the doors were opened, only twenty-three out of the whole number remained alive [*Hamilton.*]

Thus we see the necessity of pure air in the economy of life. Let us consider briefly the quantity of pure air thus necessary, that we may properly inquire into the best means of securing it.

The quantity of air which different individuals require, varies, as it also varies with the circumstances of the same individual at different times. But no physiologist pretends that less than seven cubic feet of air are adequate for a man to breathe each minute, while Dr. Reid allows ten feet [*Cutter*]. We may then safely assume eight and one-half cubic feet per minute as an average. A very slight calculation will show us in what time the air in any apartment which is not ventilated will become vitiated. Let me take an ordinary country school-house for an example. The room is perhaps 30 feet long, 25 feet wide, and 10 feet high. It will contain 7,500 cubic feet of air. In this room are seated say forty-five pupils, and at the average which we have assumed above, all the air in the room will be rendered impure and unfit for respiration in less than twenty minutes.

In this calculation we have considered the vitiation of the air arising from respiration alone. But suppose we were to take into the account the further vitiation of the air by the effluvia which arise from the persons and clothing of those present, especially the carbonic acid gas which is given off from the skin, and which is estimated by Professor Johnston at about one-sixtieth that which escapes from the lungs, and we should find this very limited time even much more contracted. And then, in addition to all this, in the center of this room of which we are speaking, there is in all probability a hot stove blistering and scorching the air, and contributing by its escaping fumes to the deadly agent that is bearing down upon the energies of teacher and pupils alike.

What preserves such a school from speedy destruction? How comes it that any one lives to emerge from its portals? The answer is, that no room is made "air-tight." The pure atmosphere outside seeks out and rushes in at those numberless crevices and crannies in which every country school-house abounds, and does something toward mitigating the horrors within. But the effects of this impure air may be easily seen in the pale countenances and the languid manner of those who breathe it, and, alas! in the enfeebled health and premature death of many who had promise of long and vigorous life.

Nothing so essential to man's life and happiness as the pure atmosphere; nothing so abundant as the sweet air of heaven that blows so freely over land and sea, over hill and plain; and yet, in many places, how scarce it is. In how many of our schools may be seen the pallid cheek, the contracted brow, the white lips that speak of a close and vitiated atmosphere, while all around the house the free winds are revelling and seeking admittance. Such a spectacle is suggestive of the humorous poet's plea for "pewer Are:"

"But o Sextant; there are I Kommodity
Wich's more than gold, wich doant cost nothin,
Worth more than anything excep the Sole of Mann.
I mean pewer Are, sextant, i mean pewer Are!
O it is plenty out o dores, so plenty it doant no
What on airth to dew with itself, but flys about
Scatterin leaves and blowin off men's hatts;
In short, its jest 'free as are' out dores.
But o Sextant, in our church its scarce as piety,
Scarce as bank-bills when agints beg fer mischuns,
Wich some say is purty often."

II. *Means to secure Ventilation.*—Much has been said and written on the subject of school-room ventilation. It is of only comparatively late years that the matter has received any attention whatever, and that any special means have been contrived to secure ventilation. In fact, it is only of comparatively late years that there has been any special need of such means; for formerly the rude log structures that bore the name of school-houses, with their huge open fireplaces occupying almost the entire one end of the building, were furnished abundantly with the very best means of admitting the fresh air on the one hand and of removing the impure air on the other.

The old-fashioned open fire-place has never been improved upon as a ventiduct for the escape of foul air, and where such an ar-

rangement exists, which, however, is but rarely, if at all, in our school-houses, by simply lowering the upper sash of the windows on opposite sides of the room a few inches, as effectual a means of ventilation will be secured as can well be had in any other way. But in the absence of such arrangement as this, some means must be contrived to answer the same purpose. The heating and ventilating of school-houses, churches, public halls, etc., has become an art, and in the construction of first-class buildings of these kinds, men who make this art a specialty are employed to exercise their skill, just as the stair-builder and the plasterer are employed; it is in school-houses of less pretensions that what is here written is intended to apply.

There are methods of ventilating school-rooms which are within the reach of every school-board and the skill of the most ordinary house-builder.

In the first place, the ceiling of every school-room should be at least twelve feet high. This would admit windows of six feet in height, and the sashes for these windows should be hung in such a manner as to allow them to be lowered from the top as well as hoisted from the bottom. The advantages of this arrangement are so obvious that it is not deemed necessary to specify them.

Again, in every one-story school-house there should be an opening in the ceiling. This aperture should be at least three feet square in a room 25 by 30 feet, and it should have a valve or cover so arranged that it can be readily opened or closed from the floor of the room. In addition, there should be a slat window in each gable end of the loft, so as to permit a free escape of the air passing out of the school-room into the loft.

Finally, there is the ventilating flue. This flue may be built of either boards or of brick; it should be made smooth on the inside, so as to offer as little opposition as possible to the upward current of air; and, whenever practicable, it should be built either alongside or in front of the smoke-flue; and it should extend from the floor to a point two or three feet above the roof. By placing it in this position, the heat from the stove rarefies the air in the ventiduct, thus causing it to rise more rapidly, thus establishing a more perfect circulation, while also it may be built into the chimney after coming above the roof, which is an advantage.

Near the bottom of this flue should be an opening of the full size of a horizontal section of the tube itself. This opening should be covered with a wire screen. Close to the ceiling of the room should be another opening into this flue, of the same size as that below. This upper opening should have a hinged door to it, and so arranged that it may be opened or closed at pleasure from the floor of the room.

The operation of this flue is exceedingly simple, and depends altogether on natural causes. When the upper valve is closed, the higher strata of air in the room are successively displaced by the warmer air from the stove or furnace, rising above them, and causing them to descend and displace an equal volume of cold air below, which is necessarily forced out of the room through the lower opening or valve. This process goes on till the whole air in the room becomes too hot for comfort, or requires change for the sake of health; when, the upper valve being opened, the hottest air near the ceiling rushes out through the flue till the air in the room is again reduced to a proper temperature, or restored to the required state of purity.

In relation to the management of the flue, it need only be added, that the upper valve should invariably be opened before closing the school-room for the night, in order thoroughly to clear it of every portion of the air which was in it during the day, and to insure its being filled with a full supply of fresh, pure air for next morning; and that in most cases the same thing should be done at noon. The upper valve should be closed, however, an hour or half an hour before the assembling of the school, according to the size of the room and the state of the weather, in order to have it comfortably warm for the pupils.*

But it is not only necessary to conduct

* For the following table I am indebted to "Pennsylvania School Architecture," by Dr. T. H. Burrowes; from which also I have transferred several of the foregoing paragraphs.

foul air from the room; it is also necessary to introduce fresh air. It is usual to depend for such supply on the openings around doors and windows, etc.; it is better, however, to close these, and bring in a supply by a conducting tube. It has been recommended to have the opening of this tube just under the stove, with a movable cover, so as to admit air when needed, and to be closed when not required. But cold air does not rise readily, but spreads out over the floor, thus maintaining a frigid stratum below, causing the feet and lower limbs to be cold, while the upper parts of the body are comfortably warm. Hence it has been recommended, and apparently with reason, to have the cold air duct to open immediately *over* the stove; the cold air will then fall down upon the stove and become heated before its dispersion through the room.

Many of our school-rooms are provided with no other means of ventilation than what is furnished by opening the door or raising the lower sash of the windows. This is not only a very ineffective means, but the latter is especially a very dangerous one. Many a youth has contracted a cold in that way, that has pursued him to the grave. Teachers should be careful that their pupils are not thus exposed to a draft of air. Better to adjourn the school for a few minutes, throw wide-open the door, and raise the sashes, until the atmosphere of the room has been renovated, than subject children to risk of disease and death.

In concluding this subject, we would urge upon the teacher to secure ventilation by *some* means. The present convenience and future welfare of himself and of his pupils alike, depend very largely upon the purity of the air they breathe. It has been truthfully said, that man's greatest enemy is his own breath. The life-and-health-sustaining element waits without, seeking admittance; open the way, and it will come in freely; open the way, and the enemy will fly swiftly at its approach.

T. J. CHAPMAN.

A ventilating duct for a room to be occupied by

25	pupils,	should be	6 by 12	inches.
50	"	"	10 by 18	"
100	"	"	14 by 24	"
200	"	"	18 by 30	"
300	"	"	24 by 36	"

When two are used in one room, for a room to be occupied by

25	pupils,	they should be	6 by 8	inches.
50	"	"	8 by 12	"
100	"	"	9 by 18	"
200	"	"	12 by 24	"
300	"	"	16 by 28	"

LONGEVITY OF THE MARRIED AND SINGLE.—By the statistics of M. Bertelon and others, in a discussion of the subject before the French Academy of Medicine in 1871, from 25 to 30 years of age married men die at the rate of 6; the unmarried 10; and widowers at 22 per 1,000 annually. From 30 to 35 years, the deaths among the same classes respectively are 7, 11, and 19½; from 35 to 40, 7½, 13, and 17½ per 1,000, and the same favorable conditions to the married continue at greater ages. But married men aged from 18 to 20 die as fast as men from 65 to 70.

Among women marriage is not quite so favorable as among men. From 30 to 35, wives die at the rate of 9, and spinsters 11 per 1,000. Under 25 the mortality of wives is a little greater than among single women. After 40 years of age, the longevity of married women is much greater than that of the unmarried.

The probabilities of life in this connection are—a man at 25 who marries has an expectation of 40 years' married life; if he does not marry, his expectation at that age is only 35. A woman who marries at 25 may expect to live until she is 65; if she remains single, to 56 years of age. Widowers and widows are nearly as badly off as those who do not marry.

In this comparison we can discern the operation of natural or organic law. They who marry fulfill, at least to a degree, the ordinance written in their very constitutions, and exercise certain faculties specially adapted to the domestic relation. They who do not marry are either deficient in or ignore some of the most important functions of humanity.

LETTERS TO A SON IN COLLEGE.

No. VII.

OBEDIENCE TO SANITARY LAW.

MY DEAR BOY:—In the foregoing letters I have taken a rapid survey of those parts of the human body most liable to be abused through ignorance of the laws and conditions which preserve and impair their functions. I have endeavored to so state and illustrate those laws that you may clearly perceive their importance, and readily apply them to the formation of habits which will conduce to your highest physical health and enjoyment. But I deem the subject of too great importance to dismiss it without reviewing a few points, which, in conjunction with what has gone before, it will be profitable for you to consider.

I have endeavored throughout these letters to inculate the doctrine that, aside from hereditary influences, health and disease are the results of our own conduct, and that by thorough acquaintance with the laws which govern our physical frames, we may so modify our habits that we may reap the reward of a long life of health and physical enjoyment. By the common sentiment of men, a general assent is given to this opinion. But it is to be regretted that it is not allowed a universal application. If a man in the heat and exhaustion of severe muscular exertion should throw off his coat and cast himself in the shade where a chilly wind would blow over him, every one would readily admit that the cold, the rheumatism, or the congestion which would be likely to ensue would be the natural result of his conduct, and they would denounce his course as most unreasonable and imprudent. But if a person by long-continued indulgence in close mental application and muscular inactivity were to develop dyspepsia, or serious nervous disorders, there are few who would perceive the connection between the habits of the individual and his physical disability. To the ignorant the disease would appear unaccountable. The religious would consider it a mysterious dispensation of Providence. But they who are familiar with the laws which govern the human frame, and the conditions which preserve and impair its health, would recognize in the dyspepsia or the nervous disorder the natural results of the habits of the individual just as clearly as the most careless would perceive in the cold, the rheumatism, or the congestion, the consequences of the sudden chilling of the body.

Now, the conduct of these three classes of persons in such circumstances would, we would naturally suppose, be very much in accordance with their beliefs. Those who regard sickness as the result of causes which we can not comprehend would simply meet it with stoical fortitude. Those who consider it a dispensation of Providence, sent upon them for their good, would bear it in humble and prayerful resignation; while those who see in it only the natural consequences of the violation of laws which govern the human constitution, would set themselves at work to ascertain those laws, and yield them obedience, as the means ordained by the Creator of avoiding the pain and suffering which are its attendants.

Whatever may be the expressed opinions of men in regard to the sources of ill-health, their conduct, when sickness comes upon them, abundantly shows that either in its production or its removal, it is associated with causes more or less under our control. For neither the ignorant nor the religious hesitate a moment, when they fall seriously ill, to send for a physician, the most skillful they can find, and willingly make any sacrifice which will promote their recovery. In this their conduct is most inconsistent with their belief: for if the causes of disease are inscrutable, then the rules which the physician lays down as to diet, pure air, sunlight, exercise, etc., for the recovery of his patient, are useless. If, again, sickness is sent upon us for our spiritual good, to wean us from the world, and to turn our thoughts to Heaven, then any attempts to deliver ourselves from it is rebellion against the expressed will of the Almighty, and merits His

severest punishment. And the great army of physicians, whom all regard as good and honorable men, is merely a force systematically trained to do battle against the decrees of Heaven.

It will be useful for us to notice, in this connection, the great advantages which have flowed from the progress of physiological knowledge. "A hundred years ago," says Andrew Combe, "when the pauper infants of London were received and brought up in the work-houses, amid impure air, crowding, and want of proper food, not above one in 24 lived to be a year old; so that out of 2,800 annually received into them 2,690 died. But when the conditions of health came to be a little better understood, and an act of Parliament was obtained obliging the parish officers to send the infants to nurse in the country, this frightful mortality was reduced from 2,690 to 450."

Until a comparatively recent period, the plague frequently visited the great cities of Europe, and carried off its victims by the thousand. London in particular was visited by a plague in the reign of Charles the Second which carried off nearly 70,000 of its inhabitants. The people of those times regarded these calamities as the dispensations of an inscrutable Providence. We, from our stand-point of advanced knowledge, regard them as the consequences of the natural effect upon the human organism of a vitiated atmosphere, arising from the accumulated filth of a dense population. Acting upon this knowledge, health-boards are established in our cities, whose duty it is to investigate and report all causes which are detrimental to the public health, that they may be removed by the proper authorities. Thus do we escape the frightful calamities which visited our ancestors.

Small-pox is another of these ancient scourges which carried off their thousands annually. Now 99 are saved, where formerly 100 would have been lost. Several generations ago the inhabitants of many districts suffered greatly from periodic returns of fever and ague. But by draining, an improved system of agriculture, the building of better dwellings, the removal of dung-heaps to a distance from the houses, the filling up of cess-pools, etc., these regions have been rendered highly salubrious.

In the light of these facts and principles, I think we can not escape the conviction that health is very much a matter of knowledge and obedience; and that we may indulge a well-founded hope that the progress of physiological knowledge will in the future, as it has done in the past, do away with a very large proportion of the evils which we suffer from sickness and disease. Let this once become a well-settled conviction in the minds of any community, that all the miseries which they suffer from ill-health are the results of causes which might be removed by a knowledge of the laws which govern the human frame, and they will immediately set themselves about acquiring that knowledge, and securing such instruction and training for their children as will develop in them sound constitutions, and enable them to reap the advantages of health down to old age. But let them look upon ill-health as the result of causes which they can not comprehend, or as the inscrutable dispensation of Providence, which it behooves them to bear in humble resignation, and they will continue to suffer and groan, and to transmit to future generations a heritage of woe.

Perhaps the chief cause of the great popular indifference to the conditions of health lies in the fact, that "health is more frequently undermined by the gradual operation of constant, though disregarded causes, than by any great exposure of an accidental kind." In other words, "because sentence against sin is not executed speedily, therefore the hearts of men are set in them to do evil." Because we are not thrown upon a bed of painful sickness by a single over-indulgence of appetite; because we are not immediately smitten with a wasting consumption, by breathing the vitiated atmosphere of an over-crowded room for a single evening; because a wasting fever does not result from a single exposure or over-exertion, therefore we are apt to live in utter disregard of the penalty which accompanies every violation of physiological law just as truly as though it came upon us like a thunder-bolt from heaven. But we should remember that the fact that sentence against

sin is not executed speedily is a most benevolent provision for our welfare, because, in the various activities of life, we are constantly subjected to exposures and influences more or less injurious to health, but which can not very well be avoided. If we were to suffer some severe penalty for every such exposure, our lives would literally become burdens, and our practical usefulness would be well-nigh destroyed. We, indeed, do see enough of sickness to be able to appreciate, in a measure, the truthfulness of this observation. Nearly every one has an acquaintance possessed of a constitution so delicate that a slight exposure or over-exertion throws him upon a bed of sickness. We recognize the great disability which such a condition imposes upon man. How it takes away his courage, hope, and ambition, and thoroughly unfits him for the active duties of life! Let, then, those who are blessed with a more vigorous organization, while they rejoice in the apparent leniency of nature toward them, remember that no violation of her laws escapes her vigilance, and that, sooner or later, she will demand the fullest payment.

But some one will say: "If we must be on the constant look-out for dangers lurking in our pathways; if we can not move a step without estimating its consequences, we might devote our whole time to thinking of our own unworthy bodies, and our lives would be hampered by attention to trivial restrictions and regulations which would wholly unfit us for the vigorous prosecution of any useful enterprise."

To this I reply, in the first place, that the Creator has decreed us into existence, and imposed upon our bodies fixed constitutions and definite laws. From these laws there is no escape. Bars and bolts will not exclude them. Solitude will not leave them behind us. Prayers and sacrifices will not free us from their operation. There is, therefore, no other alternative left but obedience or suffering.

Again, the yielding obedience to these laws, which in appearance is so formidable, is so only because it so far transcends the notions in which we have been educated. The savage looks in wonder upon the handwriting of the civilized man, by which he is able to communicate his thoughts to friends at a distance. We gaze with hardly less wonder at the performances of the trained juggler or acrobat. But how simple a thing is writing to us who have been accustomed to it from childhood, and how easy to the trained muscles of the juggler or acrobat are his feats of strength and dexterity. The observance of the laws of health is, in like manner, very much a matter of training and habit. He who has never given any attention to diet, exercise, fresh air, sunlight, bathing, etc., would very naturally look upon the observance of set rules in regard to these matters as an abridgment of his liberty. He who has been accustomed to pamper his appetite with rich and highly-seasoned dishes, would indeed consider it a great deprivation to be obliged to restrict himself to the plain and simple fare of a true hygiene. And he who has been accustomed to habits of smoking, chewing, and drinking, is utterly lost when deprived of his accustomed stimulants. But let such individuals be trained to observe the simple requirements of health; let those requirements receive the sanction of their intellects and moral sentiments as promotive of their highest temporal happiness; and they will acquire habits of obedience which will grow and strengthen, and become more facile of performance, till all idea of obedience is merged into the natural aptitude to obey.

Our circumstances, it is true, are not always favorable to the observance of the laws of health, because of our association with those who neither know nor have any regard for them. Let the counting-house clerk, the salesman, the saleswoman, the sewing-woman, the mechanic, the apprentice—any one whose time and services are at the disposal of another, disclaim against any feature of his mode of life as injurious to health, and he will likely be treated with contempt and ridicule by his associates and his employer, and if he persist in his complaint, he will be sure to be dismissed from service as a perverse and unreasonable subject. So the judge, the lawyer, the juryman, however clear and decided may be their views in re-

gard to the healthful performance of respiration, must sit in the same crowded, ill-ventilated room with their ignorant and indifferent companions, and be subjected to the same unwholesome influences. However advanced may be any man's ideas on education, civil or social polity and reform, he can not advance one step without the support of his fellow-citizens. He must educate them up to his own standard before he can reap the advantages of their coöperation. It is thus that men of enlightened views are hampered by the clogs of ignorance, and it is thus that the command, "Love thy neighbor as thyself," comes home to every man's door with a selfish, as well as a generous and exalted meaning; for it is only as we lift our fellow-men up out of their hurtful customs and prejudices that we ourselves are freed from their deleterious influences.

Just here let me impress upon you the importance of independence in thought and action, and of subjecting the common opinions and practices of men to the most rigid scrutiny of an enlightened understanding. It was want of independent thought which, in past ages, bound the multitude in slavish obedience to their leaders. The civic and religious rulers loved ignorance in their subjects, because it was inimical to free thought and favorable to that blind reverence for dogmas, forms, and ceremonies by which intellect was obscured, and the supremacy over the unthinking multitude was maintained. With the invention of printing, and the diffusion of knowledge, thought made an advance on feeling and began to assert its rightful sway. But, after centuries of progress, thought is still ruled in a great measure by feeling, and we find even well-educated men clinging pertinaciously to the opinions and practices in which they have been educated, and refusing to listen to any voice of reason which would demonstrate their absurdity. The man who upbraided the boy for venturing on the innovation of dividing the wheat in the bag on the horse's back, instead of conterbalancing it with stones, because that had been the custom of his fathers, is hardly an exaggerated type of this class.

Now I wish you to cultivate an independence of thought, a liberality of mind, and an acuteness and comprehensiveness of intellect which will enable you to pass an intelligent judgment upon the opinions and customs of society, and to stand firm in what your reason tells you is the truth. Condemn nothing which you have never investigated. Be ever ready to receive evidence upon that which can not be demonstratively proved. Be firm only in that which an enlightened reason tells you is the truth. Thus will you be able to rise above the pernicious opinions and practices of society, and be among the first to reap the advantages which flow from those advanced ideas, which will, one day, leap over the barriers of narrow-minded prejudice, and display to a wondering world the beautiful harmony and high utility of principles which so many of the present generation ridicule and despise.

One of the most common arguments urged against careful attention to the laws of health by those who would extenuate their evil practices, and fortify themselves in the self-indulgence of their perverted appetites is, that many people enjoy excellent health without any knowledge of these laws. Indeed, they say nearly all our centenarians are wholly indifferent to these matters. They live very much as other people do; smoke, chew, and drink, when they feel like it, eat what is set before them, without restricting themselves as to time and quantity, or questioning the relative proportion of its constituent elements.

To this I reply, that isolated cases never prove a rule, and that, if our knowledge and observation were sufficiently complete and accurate, we might be able to trace, even in these apparently anomalous cases, the natural operation of these very laws for which we are contending. These centenarians are invariably the descendants of long-lived progenitors, and necessarily inherit sound, vigorous, and harmonious organizations, which enable them to resist for a hundred years those injurious influences which wear out men of less vigor in fifty. To arrive at definite results in regard to the weight of these isolated cases against the observance

of the laws of health, it would be necessary for us to be able accurately to estimate the amount of the inheritance of constitutional vigor, and the rate of its expenditure. Until we are able to do this, it may be well for us to open our eyes, and contemplate the other side of the picture with understanding minds and teachable dispositions.

It is estimated that, as a general rule, the length of an animal's life is five times the period of its growth to maturity. According to this estimate, the natural age of man would be about one hundred years. The fact that this age is sometimes attained, shows that it is within the capability of the race. But the facts that not more than one in 10,000 do reach it, that more than one-half of all who are born die before reaching maturity, that the average age to which men live is less than 40 years, and that the great majority of men hardly know, by actual experience, what vigorous health really is, would seem to indicate that there must be some deleterious influence at work to thus cut short the days of man, and entail upon him so much misery, especially since this great premature mortality is reserved for him alone of all the animal kingdom. What these deleterious influences are can only be ascertained by making the human constitution our study, and subjecting our habits and modes of life to the test of the laws which we find inscribed therein.

Again, some one objects, even those who make these laws their study do not appear to enjoy that immunity from sickness which it is claimed would result from obedience to them. This is, indeed, true to a considerable extent, but if we look at the matter with a clear understanding of the facts in each case, even this apparently formidable objection may be satisfactorily explained.

First, the individual may be naturally of a weakly constitution, and hence, with the best of care, can expect but moderate health. Or his knowledge may be imperfect, and his well-meant efforts rendered abortive from failure to take in all the conditions. Or again, he may thoroughly understand the laws and conditions of health, but fail in their application. In obeying these laws, as in obeying the precepts of Christianity, knowledge is one thing and practice is a very different thing. There must be the obedient, as well as the understanding, mind, if these laws and precepts would bear their fullest fruit. The obedience, also, must be complete and thorough, the result of rigid self-discipline in the daily practice of these laws, till it shall have acquired the influence over our conduct of fixed habit.

It should be remembered, moreover, that in this matter of promoting health, "a little knowledge is a dangerous thing." Many individuals become enthusiastic over the health reform, from having its claims presented to them in a forcible manner, and immediately enter zealously upon the study and practice of its precepts. They read everything which they meet with on the subject, and amid the great variety of rules and remedies which they find for preserving and restoring health, they expect to mark out courses for themselves which will lead to the very best results. But they often fail, and sometimes do themselves serious injury, by adopting courses and remedies, which, though useful in certain circumstances, fail to meet the requirements of their special cases. Beware of a "zeal that is not according to knowledge." Stick to the general laws of temperance, exercise, fresh air, sunlight, etc., which I have laid down for your observance. If you are well, obedience to these laws will preserve you in health. If you are sick, it is only as they operate in accordance with these laws that remedies will prove effectual in recovery. Do not dwell upon symptoms, and imagine that every pain or indisposition that you may experience is the precursor of serious disorder. Above all, do not fly for relief to every nostrum and specific which you see in print or hear recommended. Let your faith be implicit in the immutability of nature's laws. If sickness come upon you, remember that it is simply the natural penalty for their violation, and let it impel you to investigate its causes, that they may be removed, and your health for the future be maintained by stricter obedience.

I have not entered upon the special consideration of the common vices of college

life, because I think that to a person of your moral culture, a simple appeal to your higher sentiments will be sufficient to preserve you from their practice. If we look abroad on society, we will find that only those secure and retain the sincere regard of their fellow-men who live habitually under the control of their higher faculties. These tend to lift a man up from low and selfish desires, and to send his thoughts outward on his Creator and his fellow-men, as the objects of his highest esteem. They condemn all practices which tend to injure or defile the temple of the soul. They reject any gratification of the lower feelings which does not minister to the well-being of the individual, and they love virtue, truthfulness, honor, and good-will to men for their own intrinsic excellence. To maintain these faculties in a state of habitual activity, is to live in accordance with the true nature of man, and to secure the highest standard of earthly happiness. While, on the other hand, to permit any gratification of the appetites or lower feelings which is not approved by these higher faculties, is to detract from the dignity of man, and to degrade his true worthiness of character. Thus the command to preserve ourselves free from all practices which degrade the mind and defile the body, is written in our mental constitutions as truly as in the Word of God; and, like all other commands of the Creator, wherever we find them inscribed, it appeals alike to our selfish and our generous sentiments. Obedience to the Creator's laws is not merely a duty which we owe to Him, and for the reward of which we must wait till we pass beyond the confines of the present life, but our own physical and mental comfort and happiness are involved in that obedience, and follow as its natural and immediate consequence. To preserve our minds and bodies pure and undefiled, to maintain them in health, and to rear them to the perfection of which they are susceptible, are thus duties which appeal alike to every consideration of self-interest in the present life, and to every consideration of happiness in the life to come. Affectionately yours,

PATER CONFIDENS.

HYGIENE IN ENGLAND.

IN the "Plain Directions for Preventing the Spread of Infectious Diseases," circulated by Dr. Maclagan, Health Officer for Hexham, England, are found the following excellent suggestions for the preservation of health, which form an excellent epitome of hygienic principles:

I. HABITATIONS.—All dwellings should be free from dampness, be freely ventilated, and have abundance of daylight.

1. "*Overcrowding* in houses is very injurious to health. Any house or part of house, so overcrowded as to be dangerous or injurious to the health of the inmates, whether or not members of the same family, shall be deemed a nuisance, liable to be dealt with summarily in manner provided by the Act."—38 and 39 Vic., Chap. 55, Sec. 91.

2. *Cleanliness* is essential to the preservation of health. The ceilings of houses should be frequently whitewashed and the rooms freely swept and floors washed.

3. *Fresh air* should be admitted into all bedrooms in the morning, by opening windows and doors. Bed coverings should be thrown down and exposed to the air for some time before the bed is made.

4. Chamber vessels should not be allowed to retain their contents and remain in any room longer than is absolutely necessary.

II. CLOTHING.—The body should be well covered. In winter or cold weather, flannel should be worn next the skin. In summer, if flannel be found too oppressive, some lighter fabric may be used, but this should invariably be *woolen*. Linen should be frequently changed.

III. FOOD.—Food should be plain, wholesome, and fresh. Meals should be taken, if possible, at regular periods. Infants should have no other food than breast milk until the first appearance of teeth, when small quantities of light farinaceous food may be given in addition. If there is a deficiency of breast milk, cow's milk diluted

according to circumstances with tepid water and a little sugar may be given. No child ought to be older than nine months before being weaned.

IV. PURE DRINKING WATER should always be used. No water which can be suspected of containing any contamination from sewers, privies, or drains should ever be used. Pure water should be clear, colorless, and free from smell, but all such water is not necessarily pure, but may contain sewage, although it is bright and sparkling. All water should be filtered; but filtration will not separate sewage, but will only separate solid matters. A cheap filter may be easily made thus: Plug the hole of a flower-pot loosely with a piece of sponge, place a layer of powdered animal charcoal about one inch thick, then a like quantity of clean sand, and on that some coarse gravel. These should be frequently changed. The charcoal may be burned over again. It is a wise precaution, when any doubt exists as to its purity, to *boil* water before use.

V. EXERCISE.—A moderate amount of exercise should be taken daily.

A REMARKABLE CASE.

THE following letter, received some time ago, briefly narrates a case of spinal disease, which is certainly of the most extraordinary character, and illustrates, in a style the most cogent, the intimate relationship of mother and child before the birth of the latter:

EDITOR PHRENOLOGICAL JOURNAL:—I send you an account of Hydrocephalus, in a child, which for its origin and terminus is equally remarkable. On November 30th, 1875, I was summoned in great haste by a Mrs. R——, of Poughkeepsie, N. Y., to see her child, whom she supposed to be dying. I found a child four and a half months old, with a head twenty-three inches in circumference. At the base of the spinal column, I found a small, soft tumor, from the central and most prominent part of which was a constant and rapid dripping of clear water. This water evidently drained from the cavity of the skull, through the length of the spinal column, and discharged at the coccyx. This drainage continued for more than a day and a half, and discharged during that time more than a quart of water. The integuments of the skull rapidly collapsed; the eyes looked wild and anxious; the pulse beat regularly, but excitedly. I gave it no medicine. It thus lay about thirty-six hours, then died, slightly convulsed.

In answer to inquiries, the mother stated that about four months prior to the birth of her child, her husband had kicked her violently upon the base of her spine, on the exact spot where the tumor was on the child. It would therefore appear that the child received an injury upon the base of *its* spine through the medium of its mother, which culminated in an extensive watery effusion upon the brain, which effusion was subsequently discharged at the *very point* where the prime injury was received.

In my opinion, the mental emotions of the mother—after her physical injury—produced the dropsy of the child's brain, and that it was *not* a reflexed action of a physical injury the child suffered on the spine.

I have read much of ancient and modern medical reports, and never have heard of a parallel case. DR. E. H. BARTON.

Poughkeepsie, N. Y.

ORIGIN OF THE CIGAR.

The Devil, one day in a sad, listless mood,
Had lain himself down on the edge of a wood;
But, bent on some mischief, he cast his eyes round,
'Spied near him a bunch of coarse leaves in the ground;
And pulled the tough things, which he crushed in his fist,
Then rolled out, and worked at, and gave them a twist;
Then grinned at his work with satanic delight.
With his old brimstone tail he then struck up a light,
Set the end of the weed with a spark all on fire,
And found the result was all that Man could desire.
The stench that arose was so horribly dreadful,
Bugs, beetles, and spiders swooned off by the handful.
"Ha, ha," said old Nick, "now I am off to the city;
I'll kick up a row; if I don't, more's the pity."
From that day forthwith there arose such a din,
Nick wagged his old tail, and looked on with a grin,
While now in each household the women made war
'Gainst Satan's invention, the potent cigar.
They were right; for the cash that was squandered that way
All ended at last in the Devil to pay.

THE LIMITS TO PHYSICAL CULTURE.

WE have frequently had occasion to dwell upon the fact that, while moderate physical culture is a great benefit—indeed a necessity, to insure a proper balance of mental and bodily powers, and consequent health and longevity—physical overculture is a great evil, leading to results diametrically opposite to those sought to be attained. At one end of the series is a constitution weak and unfitted to resist disease or the effects of labor; on the other an organization strained to its utmost and ready to yield under the slightest addition to the stress. Obviously between these extremes there must be a mean, up to which all culture is beneficial, and beyond which all is overculture. The question is, however, whether that mean is in the nature of a personal equation for every one, differing for each individual constitution, or whether it is possible to formulate general laws, true for all systems. The tendency of modern investigation in all cases relating to the science of living, is generally favorable to the latter view. Mr. Charles Darwin sends out his formulated questions the world over, and deduces results from replies proportionally considered. Candolles does the same in his elaborate investigations into the antecedents of scientific men; the statistics relative to the recruits for our army we have shown, in recent articles, to admit of valuable deductions relative to our national characteristics; and we might add numerous examples, all showing that that which is proved true, on the average, for a large number of persons, may with reason be assumed to be true of an entire class, or even a race, when surrounded by generally similar conditions of life.

Now, in the case of physical culture, the point specially to be determined by actual physiological investigation is, to what extent the body may be benefited. This known, any one may easily discover for himself when the limit is reached, and will understand that to carry his training still further is a positive disadvantage and injury. Such an investigation has lately been made by Dr. Burcq, of Paris, in the *Ecole de la Faisanderie*, a gymnasium where are drilled the soldiers who are destined to be the gymnastic instructors of the French army. No better set of men could be selected for examination, for the reason that each individual is virtually intended hereafter to serve as a model for others, and therefore his physical culture is brought to the best possible state. Dr. Burcq continued his investigations with the utmost care and minuteness for six months, during which period the progress of over a thousand men was closely watched and criticised. As a general result, he tells us now that gymnastic exercises—

1. Increase the muscular forces up to 25 and even up to 38 per cent., at the same time tending to equilibrate them in the two halves of the body.

2. Increase the pulmonary capacity at least one-sixth.

3. Increase the weight of men up to 15 per cent., while, on the other hand, diminishing the volume. This augmentation exclusively benefits the muscular system, as is demonstrated by its elevated dynamometric value.

And Dr. Burcq further observes that, during the first half of the six months' course at the school, the increase of force was most markedly noted.

To Dr. Burcq's admirable studies upon this body of trained gymnasts may be added those of M. Eugene Paz, who for a long period has been observing the results which methodical physical exercises produce in certain invalids and in a large number of people of various callings, notably artists, literary and business men, and others whose muscles are normally less voluminous than those of the picked soldiers at the *Faisanderie* School.

By means of a variety of ingenious mechanical apparatus, and by a course of investigation wholly different from that of Dr. Burcq, M. Paz reaches precisely the same results. He notes especially the increase in weight and decrease of volume of the body above referred to, and also the augmentation of pulmonary capacity. Three operatic singers who were rigorously trained for a year attained a maximum lung power correspond-

ing exactly to an increase of one-sixth. It follows, therefore, that Dr. Burcq's results may be considered in the light of a general law, and likewise as a guide to what is correct physical culture. In this view we commend them to the attention of college authorities and students.—*Scientific American.*

We would add a word or two, for the purpose of admonishing those who are disposed to taking violent exercise of any kind in the hope of increasing their strength. No great development of muscular power can be obtained except at the expense of some important organ. Acrobats and gymnasts who perform wonderful and unnatural feats usually break down early in life from derangement of the heart or from spinal weakness. Some out-of-door exercise is necessary for good health, and it can be obtained best in ways which subserve economical purposes. Instead of tossing dumb-bells, swinging clubs or tumbling over parallel bars, an hour's trial with the spade or the hoe in a garden (which every one should have), or a twenty minutes' bout with the axe and some Virginia pine wood, would afford ample play for the muscles, while a game or two of croquet or some other sociable sport of a moderate order would afford a pleasureable variety. Walking, not in the lounging style, but a brisk, steady tramp, is one of the best forms of exercise one can take.



PINE-APPLE.

THE PINE-APPLE.

The Early Reputation of the Pine-apple—Habitat—Apperance of Plant—Culture—Wholesomeness—Other Uses—Varieties.

Recipes: Dressing—Serving—Pine-apple Lemonade—Pine and Strawberry Dressing—Pine-apple Fritters—Muffins—Shell Dumplings—Canning Pine-apple.

WE are in the presence of royalty; let us render due homage. The "King Pine" claims our attention. Its appearance is not unfamiliar, as it stands: a fine aggregation of delicious fruits well preserved, with such a crown of leaves as no other fruit can boast, maintaining its dignity as long as its life, and when that is yielded, showering upon us such blessings of flavor and odor and delicacy as fully vindicates its right to the title of the king of fruits. But it is when seen in its native habitat, that it most fully vindicates its right to the royal title, standing as it does erect and alone in its place, surrounded by

such an array of bristling halberds as make no unworthy body-guard, with its artistic outlines added to its gorgeous hues.

When this title was first acknowledged we know not, but it seems to have been accorded on its very first appearance in the civilized world. Evelyn says, in 1668: "I was at a banquet which the king gave to the French ambassador. Standing by his majesty at dinner, in the presence, was that rare fruit called the King pine, growing in the Barbadoes in the West Indies. His Majesty, after cutting it up, was pleased to give a piece off his own plate to this worthiest of his courtiers, that he might taste as well as feast his eyes upon a novelty he had never met before;" but this further acquaintance produced only disappointment; "For, in my opinion," he continues, "it falls far short of those ravishing varieties of deliciousness described in Captain's Ligon's history and others; but it certainly was much impaired by coming so far." No, not even the King pine could set aside the laws of nature for the sake of gratifying a royal palate. It seems that Cromwell had received a present of this coveted fruit four years previous, but we have no gossiping courtier's report of the condition in which it was received by him. The latter is the first that is known to have been brought into England.

ITS EARLY REPUTATION.

It is no wonder that the gourmands of the age were beside themselves with desire for a taste of the rarity. It had been known by repute for over a century. Oviedo, who had early found and described it, had made great efforts to introduce it into Europe, but all in vain. The fruits perished long before the end of those dismally drawn-out voyages, while somehow they did not succeed in preserving any of the shoots or slips of the plant. It seems to have been first found in South America. A French monk first described it by its Peruvian name of Nanas, which was afterward modified to Ananas, its present botanical name, by Jean de Lery, a Huguenot chaplain, who remarked on its exhaling "so strong a scent, resembling strawberries, that it could be smelt when afar off in the woods, and so delicious in taste as to take rank unquestionably as the best fruit of America."

The description of Captain Ligon, referred to above by Evelyn, is a paragon of word painting. He says: "To close up all that can be said of fruits, I must name the pine, for in that single name all that is excellent in a superlative degree for beauty and taste is totally and summarily included. When it comes to be eaten, nothing of rare taste can be thought of that is not there, nor is it imaginable that so full a harmony of tastes can be raised out of so many parts, and all distinguishable. When you bite a piece of the fruit it is so violently sharp as you would think it would fetch all the skin off your mouth, but before your tongue have made a second tryal, upon your palate you shall perceive such a sweetnesse to follow as perfectly to cure that vigorous sharpness; and between these two extremes of sharp and sweet, lies the relish and flavor of all fruits that are excellent: and those tastes will change and flow so fast upon your palate as your fancy can hardly keep way with them, to distinguish the one from the other, and this at least to the tenth examination, for so long the echo will last." We quote this at length, for we lose our breath at the thought of such daring flights on our own account, and we know of no modern writer who has so seriously given himself up to the pleasures of the palate, as to be capable of such an analysis of gustatorial delectations.

HABITAT.

The first known successful journey taken by the pine was to the West Indies, where it was successfully cultivated, and whence the specimen above mentioned was brought. Soon after this, a Dutch gardener of Leyden, named Le Cour, succeeded in creating an atmosphere in which the royal fruit deigned to bloom, and in 1690 a plant was transferred thence to the royal gardens at Kew. Early in the next century Lady Mary Montague thus discourses of some which she saw on the dessert-table of the Elector of Hanover. After speaking of some other attraction, she says: "But I had more reason to wonder that night, at the royal table, to see a present from a gentleman of this coun-

try of two large baskets full of ripe oranges and lemons of different sorts, many of which were quite new to me; and what I thought worth all the rest, two ripe Ananasses, which to my taste are a fruit perfectly delicious. You know, they are naturally the growth of Brazil, and I could not imagine how they came here except by enchantment. Upon inquiry I found they have brought their stoves to such perfection that they lengthen the summer as long as they please, giving to every plant the heat it would receive from the sun on its native soil." In a few years "pine stoves" became common in the principal gardens of Europe, and pines were produced very much superior to any they could import without the aid of steam navigation, although they often cost as much as £5, or $25 each. But they show the advantages of cultivation, so that really superior fruit was produced, weighing from 4 to 8 pounds. Much larger sizes are also grown, some weighing even 14 pounds, but these are not of so good a quality. The British gardeners have paid much attention to their cultivation, and they talk about the Bicton pines as complacently as if they had quite naturalized them. A late English writer says: "Without exception, it is the most luscious fruit grown in England. Excepting the Burmese pines, and probably the fruit reared at Singapore, which rarely reach our market, the most notable specimens are the produce of this country." This is unquestionably something of a triumph, and if we did not feel that we were doing some work of a high order for the social and moral world, we should be annoyed to see British gardeners thus excel us in raising our own fruits. Perhaps as we gradually free ourselves from the waste of capital and time and brains now caused by the manufacture, sale, and use of intoxicating liquors we may be able to maintain the excellence of our own productions to a greater extent than we are now doing.

The pine is grown in great abundance in the West Indies, whence we usually get our supply. Here they are cultivated in parallel rows like agricultural crops. And Humboldt, a good authority, pronounces them of high excellence. In Surinam they grow spontaneously, in so great abundance that they are fed to the hogs. They have been introduced into almost all tropical countries, and are so easily propagated that in many of them they have gone wild and are looked upon as indigenous. This is the case in Sierra Leone, where they form almost impenetrable thickets and run out every other kind of plant excepting trees already established. They are found wild in other parts of Africa, and in various parts of the East Indies. They thrive well in the northern part of Australia, where a sufficient supply is raised for the Sidney market. Like our Indian corn, they follow in the footsteps of civilization, and even outrun it, blessing peoples and tribes who never heard of the new world.

APPEARANCE OF PLANT.

Those who have not seen the plant may imagine something between a century plant and a yucca, with leaves thicker than those of the latter, but not so thick as the former, from two to three feet long, and in most cases armed with spines, and of a dusty bluish sea-green color. From the center of these rises a stalk, from one to four feet high, producing, first, a cluster of blue or lilac flowers, numerous, small, and close, growing upon the sides of a long, thick, fleshy receptacle. The thick, fleshy calyxes of the flowers, and even the pistils and stamens, remain after the petals fall, and, together with the receptacle, form the fruit, which continues to grow in all its aggregate parts, as though it required the product of many flowers to produce one such magnificent fruit. The calyxes, swelling, inclose the remains of the stamens, which may be seen in the eye of each segment, and which are really a drawback to the fruit in dressing, as it can not be eaten without some elaborate preparation with the knife, nor even then can it be pared smoothly without great waste of the substance of the fruit. But these are absolutely forgotten or overlooked by all the numerous writers on the subject whom I have consulted. They seem to think that such deliciousness is worth any pains that might be required for its acquisition. The seeds, when found, are near the center of the

fruit, and about the size of wheat kernels. They are seldom found in the fruit brought to market, probably because their growth is too highly stimulated. They are quite abundant in the uncultivated fruit.

CULTURE.

Formerly the plant was raised from the seed, and it was considered a triennial, bearing fruit but once and then perishing. Now it is frequently raised in a year, and the common mode is to use the suckers, or young shoots, which grow upon the stem, and sometimes, but more seldom, the top that is removed from the fruit. These take root readily, and grow, after they are started, in very poor soil, usually sandy; and many are grown in hot-beds of tan-bark placed on horse-dung. Some of the best have been grown mostly in the open air, but the climate here would probably be too dry. They rejoice in heat and moisture, but soon spoil if deprived of fresh air. So thoroughly have the difficulties in the way of its culture been studied up and removed, that one cultivator declares that any one who can get stable manure may now grow pines.

The devices to which the gardeners resort may be worth a moment's attention. In one case, plants, in pots to which no heat had been applied, in the green-house, were brought to blossom early in the spring, and in May they were placed out in beds of leaves in the open garden. A bank was thrown up around them to shelter them from the wind, and the surface of the ground to some distance was covered with charred hay, which, by its blackness, so absorbed the rays of the sun as to keep off the night frosts and increase the warmth of the soil. Sometimes the temperature was below forty degrees, and on some days there was no sunshine—as is frequently the case in England—yet the fruit matured finely, weighing on the average four pounds, and one specimen went as high as six pounds. It was also as finely flavored as any fruits of the hot-house. In most seasons, however, this plan would not succeed at all. One of the latest plans is to have hot-water pipes under the beds of tan-bark, while special apparatus is devised for keeping the air pure.

It lives mostly on what it can get from the atmosphere, sometimes hardly taking root at all. One gardener raised it in loose moss. Dr. Lindley says that in South America they will grow when suspended in the house, or hung to the balustrades of the balconies, where they flower abundantly, filling the air with fragrance, but we have reason to suppose that these are a different variety. It is a curious fact that the long, gray Southern moss belongs to the same family, and the banana is nearly allied.

The British gardeners have very elaborate treatises on the pine and its cultivation, so that those who wish for practical assistance will know where to look for it. It would, however, convey to our minds a different idea from what it would to that of an Englishman if we were told that "this incomparable fruit is more easily brought to perfection than an early cucumber."

WHOLESOMENESS.

In vain we search through Pereira and such old authors for analyses of this distinguished fruit. Whether they were dismayed at its royalty, or took it for granted that nothing that might be said against it would be patiently received, we can not say. As for our modern chemists, they seem to be more deeply interested in finding something which they can turn into money — expectorants, cundurangoes, or some such wonderful and far-fetched piece of nonsense. They may not now be trying, as the old alchemists were, to transmute the baser metals into gold; but they are, and apparently with much greater success, coining gold out of men's indulgence of the baser passions and appetites. They consider it none of their business whether or not we get wholesome food, unless, indeed, they prefer that we should take that which is "at once agreeable to the eater and useful to the doctor," to quote one of their own number. Whose duty is it, if not of the medical man, when a new article of food is introduced into common use, to find out its constituents, and whether it will injure or benefit the partaker, and let us know about it? There is, however, a modest analysis somewhere showing malic acid. The acid, we confess, is rather sharp, but so are the acids to va-

rious other fruits, and that of the pine is much softened when the fruit is fully ripe. Moreover, we have effects from several other fruits of undoubted wholesomeness which are almost equally severe—such as some varieties of grapes, the lemon, and many others, like the barberry and the cranberry, which we do not like to use at all until we have disguised them with sugar. Our observation has hitherto failed to find anything unwholesome in this acidity.

There is, however, a serious complaint against the pine on account of the hardness and toughness of some portions of its fiber. For this reason it requires very careful mastication. We would recommend invalids, and those of weak digestion, to eat of it very sparingly. The objection is mostly mechanical, for the juice is admissible when the substance is not. This juice is very desirable as a flavoring for lemonade. Sometimes the juices of pines which are too ripe to keep long may be used in that way to good advantage.

The pine never breaks down in cooking, like the apple and some other fruits, though it does soften to some extent. Hence it is more seldom cooked than most other fruits, except for canning or preserving purposes. The pine-apple flavor which is so much used in candies and other confections and to flavor alcoholic drinks, is not usually derived from the fruit at all. Probably it is composed of common wine ether, combined with alcohol and butyric acid, and then dissolved in alcohol. This is a very good illustration of how little reliance can be placed on the so-called fruit flavors. If you use the fruit itself, or its juice, then you know you are safe and you are scarcely sure in any other way. The fruit and the juice are very easily canned, and if it were put up in small cans or in large vials, after the usual manner of canning fruit, it would often be found very convenient when the fruit itself is out of market.

The fruits which are brought to us in this latitude are usually picked when they are yet green, and we do not, therefore, get them in the delicious perfection which they have when ripened in their proper places. They keep for several weeks, but when they begin to decay, they go very rapidly.

OTHER USES.

In Jamaica the plant is used to make hedges, on account of its prickly leaves. The latter are also used for various textile purposes. When stripped of their pulp, by soaking in water and beating with a wooden mallet, excellent fibers are obtained for twisting into ropes and whips, besides being sometimes woven into cloth. There is one variety which yields a most delicate fiber, yet strong and durable. The web is called pine-apple cloth, and has been some years in the New York market, both for handkerchiefs and for dress-goods. It is as stiff, wiry, and sheer as good, fine, starched organdie, making a really beautiful fabric.

VARIETIES.

We have in the New York market two well-known varieties, or rather species, called the Strawberry pine and the Sugar-loaf pine. The former is much the more common; indeed, during the most of the season it is the only one in market. The shape is almost a perfect oblong, sometimes a little larger near the base. The color is bright, of a pleasant pinkish red and pale yellow, and the riper it is the more the red prevails over the yellow. The bracts at the top are short and thick and stiff, and the ends of the bracts which are seen upon the surface of the fruit are so prominent as to give it a somewhat rough appearance. The acid of this variety remains quite sharp, even after it is thoroughly ripened.

The Sugar-loaf is inclined to be a little larger, and decidedly longer; its shape is very well indicated in the name. The bracts are much larger, longer, softer, and thinner. The color of the fruit is a handsome dark green, with traces of pale yellow. As it ripens, the green becomes more dull, giving partial place to a dull yellow, but not entirely disappearing. The bracts are smaller than in the other sort, and consequently the fruit is smoother. On the whole, it is not so showy as the Strawberry pine, though to the initiated, it is much more attractive, for even when yet unripe it has none of the

harsh acid of the former. I can not find that it is any more difficult to raise. It costs little, if any, more in the market, though it is much more scarce. It comes a little later in the season. I have thus carefully described them both, not only that my readers may be able to avail themselves of the better sort, but that they may aid in getting up a greater demand for it. It is very possible that there are material points about this matter of which I am not informed; if so, I should be glad of any information from those who are better able to give it.

RECIPES.

DRESSING.—In handling, the tufted crown of the fruit is ignominiously, but most conveniently, made its handle. Holding it by this, remove the suckers, if there be any at the base of the fruit, and then, with a sharp knife, cut off the base, so as to present a good clean slice. Then cut off another slice, say a quarter or a third of an inch thick, and laying it on a clean board, with the sharp knife cut the skin from the edges right through the eyes. Then take the slice in the fingers and scoop out the remainder of the eyes, and trim off any bits of skin that may remain. Proceed in the same manner until all are pared; pile them up in a glass tazza and send to the table at once. Some cut the skin all off and dig out the eyes with a sharp-pointed knife before slicing, but this is more wasteful, more difficult, takes more time, and has no advantage but that of saving an inconsiderable amount of juice. Where many are pared, the parings are stewed or steamed, and the juice is made into jelly. The knife should be promptly cleaned, as the sharp acid is very deleterious to the steel.

SERVING.—The fruit should always be sufficiently ripe to serve without sugar. A glass plate and a silver knife and fork are the most appropriate to their peculiar character and shape. Even when sprinkled with sugar, the role should be the same. It is difficult to cut with a spoon, and when cut into bits, as is sometimes done, the beauty is gone, and the bits themselves look awkward in the teaspoon. The Sugar-loaf sort is more easily managed. The royal way of eating either is to take the slice in the fingers, as independently as you would an ear of green corn, and bite the succulent part, holding it by the center. The West-Indians pare it whole, and tear it to pieces by taking out mouthful after mouthful with a fork.

PINE-APPLE LEMONADE.—Take one medium-sized lemon and one slice of pine-apple to each pint of water. The pine need not be pared. Squeeze them both in the lemon squeezer. Make the lemonade with either cold or hot water, as you choose. Sweeten to the taste, if you can not bring your taste to the health standard, which does not require the sugar. This is wholesome, delicate, and refreshing, and it will quench thirst much sooner than when made with sugar.

PINE-AND-STRAWBERRY DRESSING.—Scald the strawberries and drain off the juice through a tammy or a hair sieve. Do not press the fruit, but let it drain thoroughly, then add about one-tenth part pine-apple juice, pressed from the fresh pines, or the juice from the canned fruit, with sugar to the taste. Place in an acid-proof saucepan and return to the fire, adding, when it boils up, a spoonful of corn-starch wet in water. Let it boil up once and dish. This is an admirable dressing for boiled rice, and for various kinds of puddings.

PINE-APPLE FRITTERS.—Mix one gill of soft oatmeal mush, one gill of nicely-boiled rice, one gill of Graham flour, and one-half pint of water, or enough to make a batter that can be conveniently spread out on a griddle. Then cut and pare slices of pine-apple, about one-eighth of an inch thick, rejecting the core; spread the batter on the griddle in cakes, a little larger than the slices of fruit; lay on the fruit and cover each one with a thin layer of batter; bake brown on both sides. Serve with a dressing of simple syrup.

PINE-APPLE MUFFINS.—Mix equal parts well-cooked rice, Graham flour, "B" oatmeal, and water, and bake in muffin rings twenty minutes, or until they will slip from the rings without sticking; then split in two slices, and on one place thin slices of pared pine-apple, sprinkled with sugar, immediately place over it the other half, and cover with a napkin. Let them stand in a warm place for ten minutes, and serve.

SHELL DUMPLINGS.—Take perfectly clean and deodorized clam-shells, or what other pretty shape you please, provided it be not of any material that will yield to the acid; oil thoroughly and half fill with nicely-boiled rice, then lay in some thin slices of pared pine-apple, cover it with rice and place in a steamer, cooking it fifteen or twenty minutes. Turn out of the shells on the dessert plates, and dress with powdered sugar, simple syrup, or the above pine-and-strawberry dressing.

CANNING PINE-APPLE.—Slice and pare your pine, then pile up the slices, and remove the center by cutting down and around it with an apple-corer; then cut the fruit into about eight wedge-shaped pieces, more or less, according to the size, or tear in pieces with a fork, West-Indian fashion; put into the preserving pan, with water enough barely to cover, and cook fifteen or twenty minutes, then seal up like any other fruit. Sugar can be applied when it is used.

JULIA COLMAN.

RECORD OF SCIENTIFIC DISCOVERY.

Recent Astronomical Items. — Dr. Henry Draper, of New York, and Mr. Huggins, of England, have been simultaneously at work upon the photography of stellar and planetary spectra, and have each obtained good impressions of the spectrum of Vega (*a* Lyræ), which shows peculiar broad dark bands, quite unlike anything in the solar spectrum. Dr. Draper finds that the spectrum of Venus exhibits at the purple extremity the same sort of weakening in photographic power which is observable in the spectrum of the sun near sunset.

On December 28th the observatory at Wilna, in Russia, was burned. The large refractor and photo-heliograph were destroyed, and only books of minor value were saved. The observatory has been of late years doing some very valuable work, and its destruction is a serious loss to science.

Ant Intelligence Limited. — In a fourth communication to the Linnæan Society (reported in *Nature*), on the habits of bees and wasps, Sir John Lubbock has illustrated by ingenious experiments his *modus operandi* of testing their faculties, dispositions, habits, etc., by something of a double F apparatus, whereby an interval of three-tenths of an inch, either by a drop from above or reaching upward the distance from below, alone prevented ants from gaining access to a covered glass all filled with larvæ. They evidently had not the acumen to surmount the three-tenths of open space, although they had for hours before been traversing the route and carrying off larvæ previous to the small gap being made. Industry was conspicuously shown by one specimen, which Sir John used to place in solitary confinement in a bottle for hours, and once for days; but on the moment released, it commenced its laborious larvæ-gathering propensities. It seems, from other experiments, that ants in difficulties within sight of their companions are by no means always assisted or relieved; other attractions, food and such like, possessing greater interest for them. On putting some specimens under the influence of chloroform, little or no notice was taken of those insensible by their companions, the tendency apparently being to let friends lie, and throw over the edge of the board strangers thus chloroformed. It seems that to get ants properly intoxicated with spirit for experimental purposes is no easy matter, some recovering too quickly, and others remaining so thoroughly dead drunk as to come under the head of impracticables; while between reeling friends and strangers the experimenter finds himself baffled. The sober ants are exceeding puzzled at finding their friends in such a condition. As a general rule, they picked up drunken friends and carried them to the nest, whilst they threw into the water and drowned strangers In some instances confusion arose, for a few of the strangers were carried to the nest, and friends tumbled into the water; but they did not return to the rescue of the friends, though strangers were afterward expelled from the nest. Sir John expresses surprise that ants of one nest perfectly well know each other. Even after a year's separation old companions are recognized and amicably received; whereas, strangers, particularly among the *Lasius flavus*, are almost invariably attacked and maltreated, even when introduced in the mixed company of old friends. But sight can not be acute. For example, in experiments food was placed on a glass slip a few inches from the nest, near the straight road to and from the nest being so familiar to the ants; but when the food had been shifted only a short distance from its first position it was long ere it was re discovered. Indeed, they wandered from a few minutes to half an hour in the most extraordinary circuitous routes before finding out the direct road between the nest and food, and *vice versa*. Slavery in certain genera is seen to be a positive institution — the Amazon ants (*Polyergus rufecens*) absolutely requiring slave assistants to clean, to dress, and to feed them, else they will rather die than help themselves, though food be close at hand. A curious blind wood-louse (*Platyarthrus Hoffmansegii*) is allowed house-room by the ants. It acts as a kind of scavenger, the ants taking little notice of the wood-lice, and even migrating, leaving them behind. Some new species of Diptera, of the family Phoridæ, he finds to be parasitic on our house-ants, and Mr. Vernal has recently described these interesting forms.

Structure of Blood Corpuscles.— *Editor* PHRENOLOGICAL JOURNAL: In the July issue of your periodical Mr. F. G. Fairfield discusses this question, and in support of his views gives a figure in which he professes to trace the course of the rays of light as they pass from the mirror on a microscope through the slide, object, and thin glass cover to the object-glass. It is upon this figure that Mr Fairfield rests his chief claims to a demonstration of his theory, and, therefore, if the principles used in tracing the path of the light are erroneous, the whole argument falls to the ground. With this, however, I am not so much concerned. What I regard as of more importance, is that the readers of the PHRENOLOGICAL JOURNAL should not be misled, in regard to such an important subject as the action of simple lenses, by statements which violate the most elementary principles of optics. Mr Fairfield says that "When a ray of light passes from a refracting medium of lesser into one of greater density, it enters the latter at right angles to the plane of its surface." This is not so. The incident ray is, in this case, bent from its path to an extent which varies with

the refractive power of the medium which it enters, and even in the case of the diamond, the most highly refractive substance known, this bending is not enough to bring it to a right angle. In the case of glass, it is about half what it is in the case of the diamond. It puzzles me to know where Mr. Fairfield could have obtained ideas so widely at variance with the facts.

Carrying out his theory as above enunciated, he states that in a sphere of glass the impinging rays all meet at the center of the sphere. This, again, is incorrect. Parallel rays, falling on a sphere of common glass, would be brought together at a point on the other side of the sphere and distant about a semi-radius from its surface. Convergent rays would come together at a lesser distance; divergent rays at a greater distance. In the case of a blood corpuscle (assuming it to be spherical, as represented by Mr. Fairfield), since it does not refract as much as glass, the rays would come to a focus at a greater distance from its surface.

Those of your readers who are not familiar with optics and yet wish to test this matter experimentally, can do so with the bulb of a broken thermometer. After emptying it of mercury (by slightly warming it), and filling it with a solution of salt in water, let it be used as a burning lens, or magnifier. In the first case, it will be found that it brings the rays to a focus at a point outside the bulb, and in the second it will be found that the point at which letters are seen most distinctly through it is distant a little more than a quarter of its diameter from its surface. This shows clearly that after passing the center of the sphere, the rays do not diverge as figured by Mr. Fairfield. I say nothing in regard to the fact that if the figure is supposed to be accurate, both the slide and covering glass will be found to be of impossible thicknesses, and that their influence upon the ray is very different from what Mr. Fairfield figures. The two mistakes that I have pointed out are so important that it is a pity to allow them to obtain currency without correction, and it certainly astonishes me to find that a writer who claims position as a professional microscopist should apparently know so little of the principles which govern the construction of the instrument that he uses.

JOHN PHIN,

Ed. Am. Journal of Microscopy.

Making Speech Visible.—At a meeting held at Salem, Mass., a lecture on "Visible Speech" was delivered by Prof. Graham Bell, who, by means of the drum in a human ear cut from a dead subject, has succeeded in producing a phonautograph. The ear is placed in the end of an ordinary speaking-trumpet; on speaking into the trumpet the drum is set in motion; this moves the style; the style traces the effect on a plate of smoked glass; and by means of a camera the curves and lines can be exhibited to a large number of spectators. The five vowels make five different curves; and, according to Mr. Bell, there is no such thing as a sound or tone pure and simple, but each is a composite of a number of tones; and the wavelets by which these are produced can also be shown on a screen. Tables of the various symbols have been drawn up, and found useful for educational purposes, as was demonstrated by a young deaf and dumb pupil from the Boston institution, who interpreted the symbols at sight.

Comparative Health of Leading Cities.—The Health Bureau of the German Empire reports, that during the week ending on the 27th of January last, the number of deaths to every hundred thousand of the inhabitants in the cities enumerated, were as follows:

Berlin	42	Copenhagen	58
Cologne	52	Stockholm	55
Madgeburg	56	Christiana	45
Strasburg	76	Warsaw	28
Munich	60	Naples	61
Augsburg	89	Turin	43
Dresden	38	Bucharest	59
Leipzig	34	London	40
Brunswick	41	Liverpool	55
Hamburg	48	Glasgow	49
Vienna	52	Dublin	58
Pesth	81	Edinburgh	41
Prague	95	Alexandria, Egypt	85
Amsterdam	56	Madras	121
Rotterdam	51	Bombay	65
The Hague	44	New York	47
Basle	66	Philadelphia	32
Brussels	49	Boston	37
Paris	53	San Francisco	58

An Art Discovery.—The finding of the arms of the celebrated Venus de Milo has been announced. They were discovered within ten yards of the spot where the torso was unearthed in 1821, on the island of Milo. The American *chargé d'affaires* at Athens, Gen. Meredith Read, says: "The arms are exquisitely modeled. One holds a disk or shield. The workmanship and the locality compel even the skeptical to acknowledge the authenticity of these wonderful relics." The evidence given tends certainly to show the *genuineness* of the relics. A curious coincident occurred with this discovery, in the death of the discoverer of the statue, Col. Voutier, at Hyeres, France. While a midshipman in the French navy, he landed on the island of Milo, and chanced upon a peasant who had dug up the figure and was about to throw it away; but at once perceiving its beauty, interfered, and it was saved. Now, when the arms have come to rejoin their body, the news of Col. Voutier's death reaches Athens.

Kerosene Oil and Illumination.—In a lecture on "Illuminating oils," Mr. R. C. Kedzie, of the Michigan Board of Health, gave the results of his own experiments, in the following language:

"Another fact does not seem to be generally known, although I pointed it out nearly two years ago, viz.: that kerosene rapidly deteriorates by exposure to sunlight. Here are two bottles of kerosene, one clear as water, and the other dark yellow; yet they were filled from the same can of kerosene

and have stood side by side for several weeks; one was exposed to sunlight, while the other was wrapped in paper, impervious to light. In one bottle the sunlight has changed a part of the oil to a tarry substance, which remains dissolved in the oil and colors it yellow, while no such change has taken place in the other. If I add some sulphuric acid to this yellow oil, quite a heavy deposit of tarry matter will form, but none in the other oil. Any kerosene long exposed to sunlight will burn less freely, and all lamps should be kept in a dark closet when not in use. The people also complain because the high-test oil is more costly. Of course, no intelligent man will claim that the remarkable advance in the price of kerosene all over the country during the last year, has any connection with our high test. This is the result of a combination of the principal oil refiners, who control the market. But high-test kerosene, everywhere, costs more than low-test. Gallon for gallon it costs more, but is it therefore more expensive? I was surprised at Grand Traverse to hear that 'the high-test oil not only costs more, but would not burn so long as low-test.' This statement was so opposed to known facts, that I determined to test it accurately. I took two exactly similar lamps, filled one with high and the other with low-test oil; weighed the lamps and oil; lighted them and kept the blaze at equal intensity, and after allowing them to burn side by side for a certain time, I weighed the lamps to find how much oil each had consumed. While the high-test oil had lost four ounces, the low-test had lost five ounces. I have tried the experiment in many ways, both by measuring the amount of oil that was consumed, and by weighing the same, but always with the same result, viz: the low-test oils always burned away faster than the high-test when the light was the same. The low-test oil sells for 28 cents wholesale, and the best high-test for 35 cents (January, 1877)—an increase of one-fourth; but the low-test oil burns away one-fourth faster, so that measured, not by the gallon, but by the amount of light, the high-test is as cheap as the low-test."

Planetary.—Mars will be in opposition this next September, in a position more favorable than will recur before 1892 for discovering the solar parallax. The precision of this method will be comparable with that obtainable in case of a transit of Venus, and the trouble and expense will be vastly less. There will be careful observations in various parts of the world.

Colored Snow.—The somewhat rare phenomenon of a fall of golden yellow snow occurred in the midst of a severe storm on the afternoon of the 27th of February, at Peckeloh, in Germany. A specimen of the water melted from this snow, after being kept a few days, was microscopically examined by Weber, who describes it in Klein's "Wochenschrift;" he found that it contained principally four different kinds of germs or organisms, shaped respectively like arrows, coffee beans, horns, and dark flat discs.

Delicate Thermometer.—A very sensitive thermometer, invented and used for many years by Moritz, has been recently described by him. It consists essentially of a cylindrical band compounded of two strips of platinum and silver soldered together. One end of the band being fastened, the other end is free to move with every change of temperature, and in doing so, moves a mirror mounted upon an axis in such a way as to reflect to the observer's eye the divisions upon a fixed scale, as in magnetic observatories. The instrument, as used by Moritz, may be contained in a box of less than two inches on a side; it can be exposed to the weather if need be, and can, also, be used as a wet bulb thermometer; it appears to be accurate to the fiftieth part of a degree, Fahrenheit.

AGRICULTURAL HINTS.

[The mind is the man. Farming, in the highest sense, is not simply doing the hard work necessary. This can be done by muscle when directed by brains. The true farmer is he who can plan, direct, and control skillfully.]

As this department is one which should contain the most recent gleanings of wisdom and experience, our readers and friends in the rural districts are invited to send us any items of value to agriculturists in general, and which should have a wide circulation. Due credit will, in every case, be given to the contributor.

Mongol Farming.—An English writer who has traveled in Japan and observed the condition of things, thus comments:

"This is the great difference between European and Japanese culture. The former is simply a delusion, which will be detected sooner or later. Japanese cultivation, on the other hand, is actual and genuine; the produce of the land represents, indeed, the interest of the capital of the soil's productive power. As the Japanese knows that he has to live upon that interest, his first care is devoted to keeping the capital intact. He only takes away from his soil with one hand, if he can make up the loss with the other; and he never takes more than he can return. He never endeavors to force the production by large supplies of azotised matters.

"The fields in Japan do not, therefore, as a general rule, present that luxuriant aspect which gratifies our sight occasionally at home. There are no impenetrable forests of straw, from six to eight feet high, to be seen, nor turnips weighing 100 lbs., with 99 lbs. of water in them. There is nothing extravagant in

the sight of Japanese crops. But what distinguishes them most favorably, as compared to ours, is their certainty and uniformity for thousands of years. The real produce of land can be calculated only by the average crops of a long number of years.

"If additional proof were needed to show that the state of cultivation is very superior, and that the land yields abundant produce, I would point to the fact that the Japanese empire, which covers an area similar to Great Britain and Ireland, and of which one-half at the most, from the hilly nature of the country, can be looked upon as fit for tillage, not only contains a larger number of inhabitants than Great Britain and Ireland, but maintains them without any supply of food from other parts. Whilst Great Britain is compelled to import corn from other countries, to the extent of many millions per annum, Japan, since the opening of its ports, actually exports no inconsiderable quantities of food."

A Great Poultry Farm.—Mr. William C. Baker has organized an immense enterprise in poultry raising, at Cresskill, N. J., the cost of which has already reached $75,000, and even at this figure, he makes the business pay him a handsome profit. His chickens are hatched by artificial heat through an incubator of his own construction, the capacity of which is now estimated at one hundred and forty thousand chickens per year, and which the proprietor expects to double during the next few months.

Look out for the Cucumber.—An exchange tells that Dr. Leidy, at a recent meeting of the Academy of Sciences, Philadelphia, announced a discovery likely to startle cucumber eaters. It was to the effect that this vegetable or fruit (which is it?) is liable to be infested with tape-worm. The doctor exhibited a specimen of a tape-worm taken from the inside of a large cucumber. It had all the characteristics of a true tape-worm, but belonged apparently to an unknown species. "The ovaries, containing round, yellow eggs, are confined to the anterior extremity of the segment." That is the scientific account of the peculiarity which distinguishes this kind of tape-worm. Perhaps the peculiarity arises from its having dwelt in the cold heart of a cucumber, instead of the warm stomach of a human being. Very likely these "yellow eggs" hatched inside a man, woman, or child, develop somewhat differently from what they are apt to do inside a cucumber. At any rate, it is not calculated to sharpen the appetite for cucumbers when the possibility is realized of eating along with it the fragments and eggs of tape-worm.

How to raise Fruits—A Friendly CRITICISM.—S. R. WELLS & Co., *New York:* The following is from a source entitling it to notice, and I know of no fitter place for it than the department of your JOURNAL devoted to rural affairs—you being the publishers of the book alluded to.

THOS. GREGG, ESQ.—*Dear Sir:* I have your little book, "How to Raise Fruits," lately so handsomely issued by S. R. Wells & Co., and I need not inform you that I am in entire accord with its aims and purposes, and that I see much in it to commend. And I know you will not object to my stating, in a friendly way, what I conceive to be minor faults. I refer to a certain extravagance of statement, not confined alone to your book, but frequently indulged in by writers on fruit culture. Overestimates of yield are too frequent among writers of your class, and are calculated to create a prejudice in the public mind against the writer and the business of fruit-growing. Your statements of the yield of strawberries, for instance (see pages 137–8), will be regarded as extravagant by many of your readers, and I think it will be only the initiated few who will give them any credence. How many, think you, of those who grow this fruit, are able to obtain half the lowest amount stated? Very few. And I think the number very small, indeed, who approximate those yields. Convince the public that "eighty to one hundred bushels"—or even as many as of corn—can be grown per acre, and my word for it there will be a large increase of strawberry planting.

Again: Is there not also a little extravagance in the cuts representing some of these fruits? for instance, Col. Cheney and Triomphe de Gand (pages 142 and 146). Who ever grew a strawberry as large as the latter? And do not these overdrawn pictures have an effect contrary to that intended?

I make these criticisms not in any spirit of fault-finding, but as a lover of good fruits, and as a convert to the doctrine that fruit-growing and fruit-eating have a decided beneficial effect upon the health of the people. And hoping that the book may have an extensive sale, I subscribe myself, yours, very truly,

A. W. K.

REMARKS.

It may safely be admitted that few Col. Cheneys or Triomphe de Gands reach the size given in the cuts. Yet I have great confidence that those strawberries can be and have been brought to the size represented. They profess to be actual measurements—the first, I believe, as given by its originator at Rochester; the Triomphe de Gand by a propagator not now recollected. They are *not* given as representations of those varieties as grown ordinarily by unskillful cultivators, but as showing their capabilities under the best treatment, and are so generally regarded by the public. These, as well as other varieties, have frequently been shown that measure five, six, and seven inches in circumference. So there is but little exaggeration, if any, in the cuts referred to.

In the matter of yield, there is no overstatement. The figures given are not too large; indeed, they are all below what has

been and can be produced. While perhaps a majority of strawberry-growers do not reach as many bushels per acre as they would of corn, many are the small plats which have yielded, with little extra care, thirty-two quarts, or one bushel, to the square rod. That yield is in no way astonishing, yet it is at the rate of 160 bushels to the acre. Aside from the testimony of others, the writer has in several instances known of yields much in excess of that. And he has this year known a plat of Triomphes to give *more than two bushels* to the square rod, or 320 bushels per acre—it being the fourth year from planting, and its owner had not thought it extraordinary. It is urged that these large yields are rare instances, and usually from small plats of ground. True; but, soil and circumstances being equal, what can be done by one man, can also be done by another; and the proportionate care and labor bestowed on one or five rods will produce equally favorable results if bestowed on 160 or 1,600 rods.

Hence, on a careful review of the subject, and with a sincere desire to avoid all exaggeration and doubtful statement, I am compelled to join issue with my friendly critic, and maintain that what he calls an "extravagance of statement" is not extravagance, but only "words of truth and soberness."

TH. GREGG.



MRS. C. FOWLER WELLS, *Proprietor.*
H. S. DRAYTON, A.M., *Editor.* N. SIZER, *Associate.*

NEW YORK,
AUGUST, 1877.

HO FOR THE COUNTRY!

MIDSUMMER is here in its glory of leaf and flower, and with its heat, and glare, and dust. Our friends of the rural districts at this season are regarded with a feeling akin to envy by those of us who daily tread the streets of the sweltering city, and worry through the long days at the tiresome desk or counter. It was scarcely so a few months ago, however, while the ice-king held us in his rigid grasp, for if, in the course of the winter, our thought was turned toward the country—visions of snow-bound meadows, frozen streams, of leafless trees and a dreary lifelessness pervading the wide expanse—awakened reflections of the comfort and advantage we denizens of town possessed in so rich measure over the husbandman and villager. Here life seemed quickened by the frosty air to an excessive expression, the theaters of business and of social pleasure being filled with a zealous throng; in the country, life, like the streams, seemed to have halted in its course for a period of repose. But now, the country has assumed a phase of superiority, and we feel drawn toward it as toward a place whose scenes and influences will be healthful to the body and refreshing to the mind.

It is a practice which we are far from decrying, that of spending a part of the warm season away from the pent-up city; for some, it is indispensable, if they would be well and perform their allotted work efficiently. For the young, the aged, the sick, and the toil-worn, the change of scene and avocation which a month or so amid the beauties of nature affords, is highly beneficial. We are inclined to think that he who never goes into the country, or does not love its picturesque blending of hill and dale, forest and meadow, is very one-sided in his development. The normal mind finds delight in the dispositions of nature, and tires of artificial surroundings, however splendid may be their design and finish.

The natural only gives complete satisfaction.

Many city people go to sea-side or mountain resorts, where they take rooms in hotels or boarding-houses. Some are rich enough to own a country-seat for summer use. But many visit friends and enjoy themselves at very little pecuniary expense. If the arrangement be mutually agreeable, it is well enough; but cases are easily conceived where midsummer guests are undesirable and hindrances. The farmer, in the midst of his harvest, having need to use every facility he can command to secure the best results of sun and air, and his wife as fully alive to the interests of the hour, and as busily employed as himself, have little or no time to give to visitors, and there can be little hearty enjoyment on either side, unless the visit be very brief. People who "come to stay," in such cases, can scarcely be welcome unless there's a good deal of helpfulness specially suited to the hour in their composition of brain and muscle. There are times when our best friends — those whose society we most desire—would be annoying to us; at such times, however, our best *friends* do not put themselves in the way to embarrass us.

REVIEWERS' PERSISTENCE IN ERROR.

TWO or three writers of eminence have recently contributed papers to leading English publications, in which they have taken occasion to allude to Phrenology with such emphasis that we infer it is active enough in England to arouse anew the fears or prejudices of speculative metaphysicians. In the late number of the *Church Quarterly Review* an elaborate article is published, which discusses the views of Bain, Carpenter, and Maudsley on the relation of mind and body, and sets forth with some definiteness the generally received opinions with regard to the part performed by the brain in the processes of thought and physical function. The whole tenor of the illustrations and proofs adduced by this writer, in support of the premise that the brain is the organ of the mind, is of a piece with that of the early phrenologists, and suggests their recorded observations as the fountain of supply, directly or indirectly. He is borne by them to the irresistible conclusion of the composite structure of the encephalon in correspondence with the composite nature of mind, but, as he is writing for an ecclesiastical organ, he couches that conclusion in careful phrases, viz.:

"In favor of the idea that the different mental powers have each appropriate parts of the cerebral mass as their special organs, may be adduced the analogy of the several physiological actions of various parts of the lower division of the nervous system, now more or less definitively ascertained. For instance, it is now admitted that the movements of the chest in respiration, of the heart in the propulsion of the blood, of the eyes in vision, etc., have not only their special nerves as channels of excitation, but also certain parts of the brain necessarily involved in their play. There is, therefore, an *a priori* probability that to the mental functions, also, certain parts of the brain are specially assigned. Assiduous attempts have been made to determine this point, in the way both of direct experimentation in the lower animals, and of observation of the peculiarities of disposition and character of individuals, in connection with the varied configuration of the brain, as inferred from the external form of the skull—the latter being the basis of the popular system of phrenology."

Then we are told that "but little light has been thrown on the subject by either of these methods."

We might ask, why is the system of Phre-

nology so "popular" if it throws "but little light" on mental character? and why do thousands declare that its teachings have opened to them the true meaning of life and given them success, whereas, notwithstanding the aids furnished by the older philosophies, they had previously entertained but a gloomy forecast. "But little light?" Let the earnest statements of intelligent men and women which come to us daily, prompted only by sentiments of gratitude, answer the aspersion. Here is one just at hand:

"I do not know how I have ever lived to be fifty years old without THE PHRENOLOGICAL JOURNAL. If I could have had it at twenty, and realized its truths as I do now, the remainder of my life would be worth much more to me.—A. G., *Mass.*"

And another:

"Phrenology is to me just what theology is to the man of religion. I live it, breathe it, and work under the strength of its influence. It is that element in my life that feeds the better part of my nature.—W. H., JR., *Mich.*"

The writer in the *Review* is not satisfied with the results of Dr. Ferrier's experiments, yet is candid enough to say:

"It must be allowed that Dr. Ferrier's observations give some support to the phrenologists in locating the reflective faculties in the frontal region."

Phrenology obtains little sympathy from the reviewer on account of his impression of the claims of its advocates, which, we can assure him, is erroneous. The learned representatives of the science do not assert for it the exalted place of "a complete philosophy of mind." They do, however, claim for it a decided superiority over the diversified and indefinite schemes of schoolmen and metaphysicians, and have a solid warrant for their claim in the very satisfactory solution of many questions previously deemed mysterious or unanswerable, and in the valuable uses it subserves in the every-day affairs of man. The simplicity of its definitions, its comprehensiveness, and the sharp distinctions which Phrenology makes between mental faculties, led the learned Whately to declare thus strongly:

"All moral and religious objections against the doctrines of Phrenology are utterly futile."

Robert Hunter, the eminent professor of anatomy in the University of Glasgow, said:

"For more than thirteen years I have paid some attention to Phrenology, and I beg to state, the more deeply I investigate it the more I am convinced of the truth of the science."

From the late Horace Mann's numerous testimonials in its favor we will only quote:

"I declare myself a hundred times more indebted to Phrenology than to all the metaphysical works I ever read."

Thus wrote the venerable author, John Neal:

". . . . The result of all my experience for something over two-score years is this: that Phrenology is a revelation put by God himself within the reach of all His intelligent creation, to be studied and applied in all the relations and in all the business of life."

And the greatest of living pulpit orators gives his testimony in such frank words as these:

"All my life long I have been in the habit of using Phrenology as that which solves the practical phenomena of life. I regard it as far more useful, practical, and sensible than any other system of mental philosophy which has yet been evolved."

The reviewer tells us that a good deal of discredit has been brought upon the system by many of its advocates because of their pandering to "wretched empiricism" and "shallow conceits;" but we have no need to be reminded of this. The very popu-

larity and practical usefulness of phrenological science prompted the fungoid growth of charlatanry which has so retarded its dissemination. But this unfortunate fact does not excuse the spirit of captiousness and rancor which some who style themselves scientists have exhibited toward it. Some have rejected it while recognizing the soundness of principles in mental philosophy and physiology which owe their discovery and application to the early phrenologists.

The writer in the *Church Quarterly* borrows most of his strength, as do all the late opponents of Phrenology, from Dr. W. B. Carpenter, who published a paper about thirty years ago, in which he embodied the results of certain studies in nervous anatomy, and asserted as a conclusion that "the first rudiments of brain found in ascending the animal scale were rudiments of the anterior lobes;" that "the posterior lobes reached their full development in man alone; and hence, that the hypothesis which seated the intellectual qualities in the anterior lobes, the moral qualities in the middle lobes, and the animal propensities in the posterior lobes, was in direct contradiction to the unbroken order of nature."

Now this is the way in which learned men to-day discuss phrenology, taking an old statement of a gentleman, very eminent, to be sure, in his own department, and, without a suspicion of its inaccuracy, building upon it a fabric of reasoning sufficient, of course, to establish their view of the unsoundness of phrenological data. The grand point of attack, their *piece de resistance*, as a Frenchman might say, is Carpenter's *dictum* that we place *the animal propensities in the posterior lobes*. What is the precise extent of the posterior lobes of the human brain? All we can get from Dr. Gray's standard treatise is the somewhat indefinite statement that "the posterior lobe rests upon the tentorium, its extent forward being limited by the anterior margin of the cerebellum," but we find no anatomical division extending upward in correspondence with the anterior margin of the cerebellum; on the contrary, the convolutions are continuous. In fact, the hemispheres of the cerebrum present a general mass indented more or less deeply by the sulci, but being nowhere separable into entire sections. The old division into lobes was for the sake of anatomical convenience; but now, the arbitrary and indefinite nature of such division is decried by Turner, Ecker, and others who favor a division in accordance with the convolutions. The posterior lobe as bounded by Gray, and illustrated on page 558 of his work, is of small extent as compared with the middle lobe, while the "propensities," in their localization according to phrenology, occupy more than one-third of the cerebral mass. These "propensities" embrace faculties relating to the preservation of personal existence, the supply of physical necessities, the maintenance of the family and social relation, and are known by the names Alimentiveness, Acquisitiveness, Combativeness, Cautiousness, Destructiveness, Secretiveness, Vitativeness, Parental Love, Conjugality, Friendship, and Inhabitiveness. Two of these lie in convolutions of the middle cerebral lobe, and considerably in front of the opening of the ear; in fact, in what are termed the anterior-inferior convolutions. Destructiveness lies immediately over the auditory process, in the middle lobe, while Secretiveness and Cautiousness lie above Destructiveness in the medio-posterior part of the middle lobe, or in what is defined by Prof. Turner, the Scottish anatomist, as the parietal lobe. Taking the parieto-occipital fissure as the anterior boundary of the occipital or posterior lobe,

which is accepted by the latest authorities like Gratiolet, Turner, and Ecker, we find that lobe to be of very small extent, its gyri barely accommodating the organs Parental Love and Inhabitiveness, so that Combativeness and Friendship must be lodged in the middle lobe.

Thus upon the ground of the non-phrenologists, and using their own map of the brain, their assignment of the "propensities" to the posterior lobes is seen to be altogether inconsistent, and one can scarcely avoid the inference that the learned writers who speak of Dr. Carpenter as having "crumbled the whole fabric of Phrenology into dust," are eminently ignorant of the true anatomical features of the system.

In another number we shall take occasion to consider the other matter of objection on the part of these learned critics, viz.: that "the first rudiments of brain found in ascending the animal scale were rudiments of the anterior lobes."

GREAT FIRES.

THOSE were terrible fires—that of St. John, N. B., which on the 20th of June destroyed almost the entire business part of the city, and turned into the streets upward of twelve thousand people, and that of Marblehead, Mass., which broke out on the 25th of the same month and burned over twelve acres before its progress was checked. But while the ashes are still hot and smoking, the work of clearing away the *débris* is begun, and the cheering sound of the saw, hammer, and trowel is heard, intimating that ere long the black scars of devastation will be covered, and a new and better order replace the old buildings. How elastic is the human spirit! How quickly its energy triumphs over misfortunes which affect the material interests of society! Witness the mighty sequel of the Chicago conflagration. The people of St. John and of Marblehead will not do less in their several places.

But there is a fire which is more terrible in its devastation than such as the above. It deprives its victims not only of their property, but it destroys them also. Its ravages consume their health, strength, hope, and life. To-day the thousands of St. John are housed, clothed, and comfortable, who were yesterday homeless and destitute, but the hundreds of thousands who are consumed by the fire of rum, lose all that belongs to home, comfort, and happiness; and most of them are crushed down in wretchedness unspeakable.

Lately, there was much talk concerning the suppression of the sale of that boys Fourth of July delight, the Chinese fire-cracker, on the ground of its dangerous character, it having been the cause of many serious conflagrations—that of Portland, for instance, a few years ago. Men of wealth and influence have argued strongly against fireworks in general, as agents of extravagance and destruction, with scarcely a single true element which might be deemed favorable to their use by reason and the moral sense. These fiery things, we are told, have burned up millions of dollars worth of property, the fruit of years of thought and toil. Society would be so much the richer if they had never been known, and hundreds of precious lives, too, would have been saved. Yes, we agree to this, but we can not help thinking of that other "fiery thing" against which these men of wealth and influence do not argue so strongly, but which causes a hundred, yes, a thousand times more material and moral damage than fire-crackers and other pyrotechnics. Will these gentlemen tell us in how many instances the fire-cracker, or Roman-candle, or rocket, which fired a building, was set off by a hand whose

carelessness was occasioned by "fire-water?" They know, however, that a large proportion of the fires which occur in the course of a year are due to drunkenness. Why, then, do they not urge the immediate suppression of the trade which supplies broadcast the liquid enemy to clear heads and steady hands?

Only do this, gentlemen, and insurance interests, now so weak, will at once strengthen, and lower rates of premium become practicable.

HOW TO OBTAIN READING-MATTER.

IT has been proposed, by some of our earnest advocates of Christian missionary enterprise, as a method by which the agriculturist might contribute to the cause of morality and religion, and not feel it as a severe tax upon his income, that a certain area of land be set apart and cultivated, and whatever was the product, it should be given to the mission fund. This idea has also been approved, by a contemporary of the press, as applicable to one's personal need of mental improvement; that one whose means are restricted—if a farmer, gardener, stock-raiser, or dairyman—could, from year to year, set apart the results of the tillage of a plot of land, or a certain part of the proceeds derivable from the sale of an ox or of the milk of a cow, for the purchase of desirable reading-matter.

The reader may remember the story of the farmer who complained that he could not renew his subscription for his favorite weekly newspaper, and who was requested by the editor to send him, in lieu of money, the eggs laid by one hen in the course of the year. The farmer, pleased by so easy a mode of settling the account, selected a hen and faithfully carried her eggs, from month to month, to the editor, who, at the year's end, surprised the farmer by exhibiting to him an account in which there was a balance in the hen's favor.

Some of the subscribers to THE PHRENOLOGICAL have resorted to measures quite desperate to continue their subscription. One even sold her hair to obtain the money for the subscription and a copy of "New Physiognomy." She was *determined* to have them!

How many of our Western friends could easily devote an acre of land to literature, the twenty or thirty bushels of grain from which would add several choice volumes to their book-shelf! Rich compensation for a few days' labor! And this book-acre could be made a regular adjunct of each year's work, its outcome successively adding to the home collection of valuable reading. We are quite sure that once fairly tried, the plan would not be lightly relinquished, or the acre for home-reading be gingerly tilled.

THE FRENCH EXPOSITION. — Preparations are now under way for the Paris Exposition of 1878. An invitation has been received by the United States Government to participate, and President Hayes is expected to appoint the commission soon, which will proceed to Paris and arrange for the exhibit from this country. The President will make this step with the expectation that Congress will make an appropriation next fall to meet the expenses. The name of General Hawley has been prominently mentioned in connection with the chairmanship of the commission which the President will probably name, and his selection for this position was considered as almost certain by prominent merchants in this city.

Our Mentorial Bureau.

[In this Department will be noticed such matters as are of interest to correspondents and to the general reader Contributions for "What They Say" should be brief, pointed, and creamy, to secure publication.]

To Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY *will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.*

IF AN INQUIRY FAIL TO RECEIVE ATTENTION *within two months, the correspondent should repeat it; if not then published, the inquirer may conclude that an answer is withheld, for good reasons, by the editor.*

WE CANNOT UNDERTAKE TO RETURN UNAVAILABLE *contributions unless the necessary postage is provided by the writers. In all cases, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage—stamps being preferred. Anonymous letters will not be considered.*

WOMAN'S READING CLUB.—In answer to further inquiries on this subject, we would say that Miss Anna E. Ticknor, No. 9 Park St., Boston, Mass., is Secretary of the New England Woman's Club, whose headquarters are in Boston.

SLEEPINESS.—"I believe it is a general habit with people during the summer season, to complain of being sleepy. I know it is true with me. You will do me a favor by telling how I can keep from being so sleepy during the day when I should be studying."—W. H. S.

Most people suffer from lassitude, depression, and drowsiness during the early summer for the reason that their systems have become pervaded with carbonaceous matter owing to their habit of eating food which contains such matter in excess, and not appreciating the necessity of modifying their diet in accordance with the progress of the seasons. Food with warming elements is requisite, of course, in the winter, but in warm weather, food which is rich in nutrient qualities, but not having a very large proportion of carbon, is desirable. A torpid liver induces a sluggishness of the circulation, which in its turn retards the functional activities of the nervous system. Hence the disposition to languor and sleepiness. You should eat fruit liberally; it assists the depurating organs in relieving the system of the surcharge of carbon, and so refreshes the nervous functions. Be active, a good deal out of doors, but do not get into the habit of lounging and lolling about; be brisk, free in movement, and you may thus stir up a general activity of the system.

LISPING.—G. K. M. E.—This habit is frequently due to the encouragement which some people have had when very young to indulge in infantile phraseology. Some mothers are indiscreet enough to be profuse in what is known as "baby talk," and their children until pretty well grown suffer in this way from such teaching. It may be due, also, to physical conditions—the formation of the tongue or lips. Effort, however, we are inclined to believe, will prove remedial, just as care will relieve, to a considerable degree, the habit of stammering.

DEAFNESS.—R. A. L.—The infirmity having been occasioned by disease in this case, we are of opinion that little can be done toward its cure. The girl should be examined by an experienced aurist.

WRINKLES.—C. C. N.—Wrinkles of the kind described as "running from the outer corner of the eyes toward the organ of Acquisitiveness" are said, by physiognomists, to indicate a tendency in the character toward uprightness, honesty, and probity. If their direction in your case is toward the organ of Acquisitiveness, it might be inferred that in your pecuniary dealings you show a straightforward, honest method. You ought, at any rate, to confirm this indication.

CULTIVATION OF LANGUAGE, EVENTUALITY, CAUSALITY, ETC.—F. J. B.—The development of these faculties to a degree indicated by 5 in your chart is a good basis for their cultivation. By reading the works of the first writers, and not only reading, but carefully studying their methods and forms of expression, and also the arguments, you may in time improve yourself very considerably. To be a good speaker, practice is necessary. We have known persons who, in the start, were scarcely able to frame a correct sentence when before an audience, but who by effort and study became really attractive as speakers. It is essential, however, that one should have something to speak about, and be well informed upon it.

HEAD ONE-SIDED.—S. N.—We rarely find a head which is evenly developed on both sides. Of course there are approximations to symmetry of growth, and for that reason as a general thing irregularity in the proportions of the head is not observable except by experienced ob-

servers and phrenologists. The left side or hemisphere of the brain is generally the larger, for the reason that it is exercised more than the right side, it having special relation to the right side of the body, which is the larger, as everybody knows. In your case the marked disparity is probably due to imperfect nutrition while you were an infant, and it may be that now you do not live quite up to the mark of perfect physical sustenance. You may be troubled with some form of dyspepsia, which prevents the complete assimilation of your food, so that your brain and nervous system still suffer from a want of due support. You should see to it that your food possesses all the essential qualities of nutrition. And you should also see to it that you have an abundance of sleep. Avoid excitement as much as you can, and do not allow your apparent infirmity to prey upon your mind and render you downcast and despondent.

NOSE-BLEED.—L. T.—Bleeding at the nose may be occasioned by several causes: an abnormal condition of the nasal veins, a determination of blood to the head because of constitutional diathesis or improper habits of diet and life, or there may be a derangement of the circulation. Of course this bleeding is injurious, like everything which is abnormal in the bodily economy. Avoid all stimulating foods and drinks; do not touch coffee, wine, spices, or food with excessive heating elements in its composition. It would be well to refer the case to some experienced physician or surgeon.

SICK BABY.—You can, of course, do something toward relieving the trouble of your little boy by carefully ordering his food. We would not give so small a child flesh meat, but milk, bread, oatmeal, and fruit; the latter, mildly tart, is desirable on account of his nervous excitability. As the trouble is a constitutional one, much care must be exercised so as not to increase the inflammatory condition. The stomach should not be loaded or urged. It were better to give him a tablespoonful of food twenty or thirty times a day at regular intervals than to crowd him at three or four meals. A thick tea made of gum-arabic would be found nourishing and soothing to his irritable stomach. A spoonful of this given occasionally will prove a good substitute for other foods.

SPIRITUALITY AND SPIRITUALISM.—Spirituality is not always large in spiritualists, but generally it is. There are some who are earnest in their advocacy of the doctrines taught by spiritualism who have been won over to them by argument and observation. Some have given in their adhesion through curiosity.

BLOOD-DRINKING.—We can not recommend blood as an article of diet. We are disposed to consider it poisonous, on account of the chemical changes it undergoes very soon after being shed.

NATIONALITY IN HANDWRITING.—We have found in our experience that nationality has something to do with one's handwriting. We can usually detect the Frenchman, or the German, or the Englishman by his handwriting. We can not say that we are equally clear with respect to the chirography of the universal Yankee. He seems to be cosmopolitan as a scribbler.

GEORGE ELIOT.—A. T.—We contemplate publishing a biographical review of this distinguished lady at no distant day.

KNICKERBOCKER CLUB.—S. B.—You will find a sketch of Plato in the November number of the PHRENOLOGICAL for 1876. It is entitled "Paul and Plato." The points will probably cover your wishes with regard to the distinguished Greek philosopher.

What They Say.

WHAT HE THINKS.—A correspondent having met with one leaf of the PHRENOLOGICAL JOURNAL, thus writes:

"From that leaf I got the impression that you think that people can avoid disease if they only live right. If this is your idea, and the opinion is right, then we have lots of folks around our district who are living terribly wrong, for there is hardly a member of any family who is not troubled with ague, either the dumb or the shaking sort. They get first one doctor and then another, but all to no purpose. Some of the families have spent at least one-quarter of the father's earnings—which is not much nowadays, for we are a poor people—on medicine and the doctors. The doctors, too, never say anything about our way of living; do not act as if they thought it mattered much how people lived. I intend to bring this publication of yours to the attention of our folks at home, and see if we can learn anything from it. If the language is not too big, I guess we can."

Our correspondent will find that the language is not "too big" for the use of his friends. Our aim is to make the advice we have to give entirely clear and simple, so that there shall be no difficulty in following our suggestions with regard to every-day life.

HAPPINESS IN ADAPTATION.—A friend sends us the following extract from a sermon in the *New Jerusalem Messenger* of Jan. 24, 1877:

"To be truly blessed is to have that to do for which our organization fits us, for which we are

made, or for which our faculties are so adapted that we can love to do it. For this is Heaven; and there is no higher, no other heaven. *The greatest blessing that we can possibly confer upon another, is to help him to see, and to lead him to love to perform the use for which he is adapted.*

"To try to do that for which we are not adapted, is like the eyes trying to hear, or the ear to see. It is vain to hope for real honor, or for real enjoyment, in any other sphere than that for which we are created. The capabilities of the hand are various; but can it perform the offices of the foot, or the foot those of the hand? And could the foot be as much honored in any other sphere as in its use as a foot? Society is, in its offices, a man; is in the human form; and we are the parts—the different organs and members. And our relative position is fixed by the peculiar form and character of our organization," etc.

FUNCTION OF THE SPLEEN.—*Editor of the* PHRENOLOGICAL JOURNAL—*Dear Sir:* At your suggestion I present an abstract of my observations on the spleen, with an inquiry into its functions. Many years ago I mentally asked this question: "Is the spleen the negative pole of the brain, for the circulation of its animal magnetism?" Now, in affirmation, I offer the following points:

1st. It is necessary to fulfill the laws of our being, which are in harmony with all external nature. 2d. It is needed to relieve the surcharged brain of its burden when unduly excited through nervous excitability or excessive mental exertion. 3d. It is (or assumed to be) the seat of our emotions, and hence bears particular relation to intuition. It often saves the brain from vertigo, apoplexy, palsy, or softening. It furnishes a seat for those internal monitions which have ever been considered as the essence, test, and ultimate of all true religious ideas, thoughts, or system. Here they are conceived, and thence sent to the spinal cord and the brain for growth, maturity, and expression. The nerves are but conductors of animal electricity, or magnetism, and also serve as the telegraph wires of our finest thoughts and purest sensibilities. Take nothing on trust, but look into your own beings, and then consult the records of antiquity, and the decisions of modern science. I but repeat the lessons of the past, and the results of patient, toiling science.

I commence with a description of the nervous system, as stated by Huff, in his "Electro-Physiology:" "The nervous system consists of two constituent portions—the *cerebro-spinal*, which embraces the brain and the spinal cord with the nerves given off from them; and the *sympathetic*, or *ganglionic*, which consists of ganglia located on each side of the spine, together with the nerves proceeding from them. The brain and spinal marrow constitute the great nervous center, while the sympathetic system embraces a series of nervous centers, wherein each separate ganglion seems to possess the power of generating nervous influence. The former has been called the nervous system of animal life, and the latter that of organic life."

"The nervous tissues are vesicular and fibrous; both essential to the nervous system. The *vesicular*, composed of vessels, or little globular cells, of a reddish gray color, composed of moderately thick capsules, containing a soft, granular pulp." "The vesicular structure collected in masses united with the fibrous structure as in the brain, spinal cord, and the several ganglia." "These masses constitute the so-called *nervous centers*, that is, the organs in which nervous force is supposed to be generated."

"The fibrous nervous system consists of minute fibers and communicate the nerve force to the different nervous centers, and thence, like telegraph wires to different parts of the body." I have had to abridge very much, but each one will remember that the brain is, according to physiologists, but an enlarged ganglion (and the presiding one). I will now make other extracts to show the organization of the spleen. Muller says: "The spleen is invested by a strong plexus membrane, which sends numerous band-like processes into its interior so as to support the soft, pulpy, red tissue of the organ." Duypuytren says: "The capsules of the human spleen are assident, as grayish bodies, devoid of internal cavities, and so soft as to take the liquid form on the knife." Nikel describes them as "roundish, whitish bodies, most probably hollow, at all events very vascular." Paxton says: "It contains a number of soft, grayish, semi-transparent granulations, disseminated irregularly in its tissue; their nature unknown." I have sketched these two sets of organs in the fewest words possible, while showing the similarity of bodies in the structure of each, and peculiar to them alone. Every one can see at a glance how similar are the words used to describe both the brain and the spleen. Dalton says: "The splenic pulp is a soft, reddish substance, a few nerves, and lymphatic, capillary blood-vessels in great profusion; and certain whitish, globular bodies, regarded as distinguishing anatomical elements of the organs called malposition bodies of the spleen." "These are very abundant, and scattered about the *pulp*." I could trace analogy in the anatomy, between the brain and the spleen, if space permitted. The sympathetic nerves do not start from the cerebro-spinal nerves, but pass from the sympathetic to the cerebral; thus forming a complete chain for the current of the surplus magnetism.

The spleen shrinks when under the influence of strychnine, camphor, muriate of morphine, etc., showing its complete sympathy with the

brain (see Muller). The post-mortem examination of Vice-President Wilson, who died of apoplexy (induced, no doubt, by long and severe mental labor), showed an enlargement and redness of the spleen; while the brain, as described by the papers, was the seat of congestion, indicated no effusion of blood; thus showing, I think, that the spleen received the shock in life's struggle against death. I have conversed with a great many people, some strong-minded men and many women, who have told me that when they suffered headache from nervous prostration or mental trouble, they always felt a sinking pain below their diaphragms, and always on the left side. I knew one man especially, of a strong physical system, and of a vigorous mind, who always suffered in that locality when severely taxed mentally in the conduct of his business. He was a large and thrifty manufacturer, and finally died from dropsy of the chest in two months after the attack, or in less than six weeks after his malady was understood by his physician, a very skillful one. He had two in attendance, but one thought the heart was the organ first affected, while the other thought it was the kidneys. I was at his house during the whole time, and watched his symptoms, and kept his case daily recorded, and then believed, as I do to-day, that his spleen was the first to respond to the overtaxed brain.

What organs in the human body are described as being formed in considerable part of pulp, save the brain, spinal cord, ganglia, and the spleen? When the world thought that the seat of the soul was in the bowels, they were referred to as the seat of mental suffering; but when people had raised their ideal mental seat to the heart, then that was appealed to for consolation, or denounced for bringing pain, or as being "deceitful, and desperately wicked;" and a good part of this character it innocently sustains to-day. Yours,

M. WINCHESTER HAMMOND.

Frankford, Philadelphia.

AN IMPROVEMENT IN NAVAL ARCHITECTURE.—A correspondent and friend writes us to the following effect: "It is usually supposed that an inventor will secure patents for the devices if they be of economic value; but that need not be the invariable sequence. It is quite possible to possess large mechanical ability combined with benevolence. In which case the inventor might turn all the powers of the mind in the direction of the amelioration of the condition of humanity in general. This, we believe, is the case with the inventor of a new model and propeller for sea-going craft, which may be described briefly as follows: Taking the experience of the past in naval architecture—depth of draft involves great pressure on side and bottom; which, of course, is friction and consequent retardation. The model chosen to obviate this, and at the same time secure stability, speed, security, and less lateral motion than at present, may be designated in the general term of saucer-shape, with modification of bow and stern. The propeller is a curious, yet simple combination of the screw and oars, so arranged as to give the blades a greater or less angle of dip, as the speed is increased or decreased; enabling the utilization of power and speed of motion in such way as to make it practicable to obtain greater economy of time and fuel in ocean transit. Estimates by competent engineers place the reduction of cost and time at one-third to one-half under the present average, by these improvements. In a purely humane point of view, anything that will tend to make the necessaries of life as nearly costless as may be in the nature of their production and transmission is a boon. For a humane philosophy concedes the fact that bread and raiment are as needful to life as air and water. Moreover, we will go a step farther and state a concession that has been wrung from the reluctant wrestlers for power and place, which is, that any knowledge which enables people to avoid disorders of every name and nature, should be freely transmitted everywhere. As the invention alluded to helps to this end, it may be adopted, notwithstanding the opposition of existing monopolies. The inventor, a thorough and practical mechanic, is in readiness to proceed to any well-appointed ship-building locality, and with the co-operation of a competent naval architect, elaborate the plans and apply them to practical use. FREDERICK M. SHAW."

Los Angeles, Cal.

WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

MANY a man has ruined his eyesight by sitting in a bar-room looking for work.

THE pleasure of doing good is the only one that does not wear out.

MEANIN' goes but little way i' most things, for you may mean to stick things together and your glue may be bad, and then where are you?

THOUGH a task of pleasure may quicken the relish of life, an unrestrained indulgence leads to inevitable destruction.

IT is the mind that makes us rich and happy in what condition soever we are, and money signifies no more to it than it does to the gods.

A SAILOR, who jumped overboard to save another, was asked if he was fit to die. "I could not be made more fit," he replied, "by declining to do my duty."—ERSKINE.

Library.

In this department we give short reviews of such NEW BOOKS *as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor us with their recent publications, especially those related in any way to mental or physiological science.*

STRUGGLING UP TO THE LIGHT; the Story of a Woman's Life. By Bella French, editor "American Sketch Book." 12mo, pp. 221. Chicago: W. B. Keen, Cook & Co.

An author not without many antecedents—of a character pretty well known in the West—has sent forth this book. The story relates that Mrs. Bright had been born a poet in temperament and yearning, was married while yet a child, and at a comparative early age was the mother of a large family. Her husband was of that average, or lower than average, class of men who pursue a routine manner of life, drink a little, chew and smoke a little, and occasionally are given to an indulgence in language not particularly refined, and hence it can not be wondered that Mrs. Bright's poetic nature, when she had awakened to a realization of the alliance for life which she had formed, felt hampered, hindered, and degraded. No wonder that under the influence of this poetic nature, with its yearnings and longings, with its lost opportunities and mistakes, with its dreams and reveries bringing to the mind's eye "what might have been," led her to become "cross, fretful, and impatient of her lowly life." One of her children, born while she indulged this mental disposition, inherited many of her qualities, particularly her earnest, yearning spirit, is the chief subject of the book. She—Martha Bright—it is who makes the struggle toward the light. Many vicissitudes are hers—an unhappy marriage, an escape from its thrall, a laborious career, with now and then a gleam of sunlight—out into the world, away from home and friends, at one time sinking under hardship so deeply that she determined upon suicide, but was rescued from her mad purpose by a stranger-hand, who proves the good angel helping her out of the slough of despond into which she had fallen, and inspiring her with fresh courage. In the course of her struggles she finds opportunities to visit foreign lands, and drinks deep draughts of instruction and inspiration from the scenes of history and poetry so thickly clustered in sunny Italy and France. Mrs. French makes no effort at fine writing; the talk of her characters is of the every-day sort, and so, too, her incidents partake of the very prosaic character of every-day life. One is impressed while reading the story that she has put a good deal of herself into it. As we glance through the concluding chapter we feel a tinge of disappointment. The "Light" does not appear to us to have been reached yet. There is an abruptness in the termination of the recital which leaves us in doubt of Martha's final success. Perhaps we are to await a sequel.

AN AUTOBIOGRAPHY OF THE REV. JOSIAH HENSON, the Hero of "Uncle Tom's Cabin." Edited by John Lobb.

Mr. Henson's story of his Life, published at the office of *The Christian Age*, London, England, represents a life of vicissitudes, from 1789 to 1876. He says he was in the vicinity of Andover, where Mrs. Stowe resided, and narrated to her the details of his life, and told her about the peculiarities of many slave-holders and the slaves in the region where he had lived forty years, and it was on that report that she built up her character of "Uncle Tom." This feature of the book is sufficient to render it interesting to the general reader.

ALCOHOL; AS A FOOD AND MEDICINE. A Paper from the Transactions of the International Medical Congress, at Philadelphia, September, 1876. By Ezra M. Hunt, A.M., M.D. 12mo, cloth, 60 cents. New York: National Temperance Society and Publication House.

The Centennial Exposition at Philadelphia last year was made the occasion or opportunity of several important conventions by learned, religious, and philanthropic societies. Among these the International Medical Congress of September holds a leading place. It is, of course, unnecessary to remind the reader that this Congress was attended by many of the most eminent medicists and sanitary reformers of the time, and all classes of questions bearing on public and private health were discussed. The numerous phases of the alcohol question were treated with candor and fullness, and the leaning of the majority was toward the non-food side.

The elaborate paper, as above entitled, which was presented by Dr. Hunt, who occupies the important place of President of the Section of the American Medical Association on State Medicine and Public Hygiene, comes to us in a neat and attractive dress. As a comprehensive review of the opinions of the best scientific observers on the nature and therapeutic properties of alcohol, it has no superior among late publications. As an aid to the dissemination of substantial information on a matter of such capital importance to the public as the use of alcoholic beverages, the volume should have the support of all who are interested in social reform, and its teachings should be disseminated thoroughly among the people.

MOODY'S TALKS ON TEMPERANCE, with Anecdotes and Incidents in connection with the Temperance Work in Boston. Compiled and edited by Rev. James B. Dunn. 12mo, cloth, pp. 248. Price $1.00. New York: National Temperance Society and Publication House.

Messrs. Moody and Sankey, in their course of Christian evangelization, could not hope to cover the field of moral and religious endeavor without having much to say on the great evil of civilization—alcoholism. Had all their energies thus far been devoted to stem the tide of intemperance and save its victims, we are inclined to think that their moral effect would have been even greater in practical results than appears from their chosen line of operation. However, as a supplementary work of the revivalists, it has been productive of great good. The present volume illustrates Mr. Moody's power as an advocate of Temperance, and it may be circulated with confidence among the drinking classes as an instrumentality for reform at once persuasive and interesting.

A good portrait of Mr. Moody, and a fine engraving of the Tabernacle in Boston, [illegible]m a part of the neatly-printed book.

THE WORLD OF SONG: A Collection of Popular Songs, Ballads, and Duets, with an Accompaniment for the Piano-forte or Reed Organ. Folio, pp. 248. Boston: Oliver Ditson & Co.

This compilation numbers upward of one hundred subjects, many of them sweet songs, which won the approval of musical people on their first appearance, and which shall long maintain a prominent place in their opinion and practice. To mention a few of them, viz.: "Angels whisper Sweet Good-night," "Carry me back to Tennessee," "The Heart Bowed Down," "The Rock Beside the Sea," "Sweet By-and-By." There is variety enough in the list for all tastes—we mean refined tastes—humorous and jocular compositions, as well as grave and severely sentimental. Of the latter sort the publishers have wisely inserted but a few. The book is admirably fitted for the use of the family and social circle; furnishing much that may serve as food for loving swain and tender maiden or for the delectation of the evening party.

"EASTWARD HO!" or, Leaves from the Diary of a Centennial Pilgrim. A new book from a new author. Being a Truthful Account of a Trip to the Centennial City via Washington, and Return via Niagara Falls, with a Graphic Description of the Exhibition itself. Price 75 cents. By David Bailey, teacher, of Highland, Ohio.

The title describes this unambitious effort of a young Western teacher to record his impressions of the great show. By those who are numbered among his friends, and who know how much of mental improvement it evidences, the volume is approved. In his "dedication" the author uses peculiar phraseology, viz.: "In the hope that she (his former teacher) will remember his errors as a pupil," etc. Generally, people are desirous that their errors shall be forgotten. But Mr. Bailey meant to convey a different sense from that in which most of his readers are likely to take his statement.

PLAIN FACTS ABOUT SEXUAL LIFE. By J. H. Kellogg, M.D., editor of *The Health Reformer*, etc. 12mo, cloth, pp. 356. Price $1.50. *Health Reformer* office, Battle Creek, Mich.

The author may well say that "books without number have been written upon the subject" which he has chosen, but he aims to treat it in a more practical and instructive manner than is the case usually. Most of books relating to this most important domain of our physical life are advertising traps set by unscrupulous quacks who have some villainous compound which they would sell at the cost of the health and pockets of the public. And such publications are not only inaccurate in their expositions of physiology and pathology, but also meretricious and baneful in their influence upon the minds of readers. The few really good treatises adapted to general use have suffered much from the odium created by these vile agents of the nostrum venders, and nowadays the learned physiologist is rare who is sufficiently interested in social and domestic reform to venture to instruct the people with regard to sexual matters and to brave public sentiment. Dr. Kellogg views the generative function in man from the point of view of physiology and as a fact in natural history, avoiding phraseology and allusions which would suggest improper lines of thought. At the same time his language is plain and definite. A hygeio-therapeutist, his advice with reference to the prevention and treatment of disorders generally obtains our approbation. Several recipes for the preparation of food adapted to the use of morbid invalidism, and hints on methods of bathing, render the appendix of special value.

THE WONDERS OF PRAYER. A remarkable record of well-authenticated Answers to Prayer. By Henry T. Williams. 12mo, cloth, pp. 408. Price $1.50. New York: H. T. Williams, publisher.

The editor in his introductory remarks states that the several hundred incidents published in this volume "are vouched for upon the strongest proofs of authenticity possible to obtain, and are either of circumstances known amid my own experience or connected with the lives of my correspondents and their friends." Among the contributors are such well-known persons as D. L. Moody, Chas. Spurgeon, Drs. Hatfield, Patton, Prime, Finney, Cleaveland, and Waterbury. As a compilation of facts the volume certainly offers the most practical kind of encouragement which a Christian could ask for toward the maintenance of his faith.

PUBLICATIONS RECEIVED.

STATE REGULATION OF VICE.—A paper read at a Conference invited by the "New York Committee for the Prevention of Licensed Prostitution" held in the parlors of the "Isaac T. Hopper Home," April 26th, 1877. By A. M. Powell. New York: No. 58 Reade St. Price 15 cents.

CATALOGUE (Twelfth Annual) of the Officers and Students of Vassar College, Poughkeepsie, N. Y., for 1876–77.

FRANK LESLIE'S SUNDAY MAGAZINE. This is a new candidate for the favor of religious people, from the press of a house whose numerous periodicals have savored of very secular character. Rev. Dr. C. F. Deems is editor. Price, $2.50 per annum. A considerable amount of reading for the money.

THE WOMAN'S TEMPERANCE UNION, the organ of the National Union, has made another advance. It has contracted its name to *Our Union*, donned a new and very attractive dress, increased its size and the number of its pages, and given a chair to a new editor, Miss M. E. Winslow, favorably known as a writer for some of our leading religious weeklies. She seems to be doing her work with vigor and efficiency, sustained by an able corps of writers. A marked feature is the space given to the juvenile work, regular lessons appearing in each number, in some of which the scientific aspects of temperance are effectively and attractively presented. This is a department of the work which will both please and assist Mr. Blair in his noble work for the coming generations.

FLORIDA AS A PERMANENT HOME: emoracing a Description of the Climate, Soil, and Productions of the State, together with hints to newcomers and prospective settlers on the choice of location, cost of labor and lumber, expense of living, how and where to build, what crops to plant, how to avoid sickness, etc. By D. H. Jacques. A well-printed pamphlet, full of trustworthy information, prepared by a gentleman who is personally acquainted with Florida matters, literary and horticultural. The price is but ten cents.

THE FIRST STENOGRAPHIC TEACHER, a Guide to the Reporting Style of the Art of Stenography. John Brown Smith, Author and Publisher. Amherst, Mass., U. S. Price 25 cents. A brief examination of Mr. Brown Smith's system impresses us that it will not be likely to supersede methods now in use. We can not perceive the gain or advantage to be derived by adopting it in preference to the Pitman Phonography.

THE QUARTERLY JOURNAL OF INEBRIETY. No. 2 of the first volume contains much interesting matter related to the habit of drunkenness, and many valuable principles, which our friends who are interested in Temperance reform could utilize. This is the official organ of the American Association for the Cure of Inebriates.

FOURTH ANNUAL REPORT of the Secretary of the State Board of Health of the State of Michigan, for the year ending September 30, 1876. A voluminous document, and valuable to sanitary science, because of the fullness and orderly presentation of its data. Office of the Secretary, Lansing, Mich.

REPORT OF THE MANAGERS of the State Asylum for the Insane, at Morristown, N. J. This neat document contains valuable suggestions concerning the treatment of lunatics, as might be expected from so skillful a superintendent as Dr. Buttolph.

NEW MUSIC.—Peters' Household Melodies, a collection of Songs, Duets, Choruses, etc. Each No. contains several songs by most popular composers, with full-sized music. Price, 25 cents. J. L. Peters, New York.

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ILLUMINATING OILS IN MICHIGAN. A Lecture delivered before the Legislature. By R. C. Kedzie, of the State Board of Health. An effort replete with practical information on an important topic.

THE WESTERN REVIEW of Science and Industry. Edited by Theo. S. Case. An enterprising publication from the far West. The contents and neat typography promise well. It deserves support.

IN MEMORIAM: George Dawson. Six of his Sermons, and several Prayers. An appreciative sketch of an earnest minister and noble man, whose recent death has occasioned no little grief in Birmingham, Eng.

SYLLABUS OF A COURSE OF LECTURES on American Pre-historic Archæology, before the College of Fine Arts. Spring Term, 1877. By Wills De Hass, M.D.

UPON THE SITUATION: A consideration of the evils, social and political, with suggestions for their correction. Tuscaloosa, Ala.: S. D. J. Moore.

THE AMERICAN MILLER, of Chicago, begins its fifth volume with a good appearance of enterprise and support. Price $1 per annum.

ODD FELLOWS' DIRECTORY of Philadelphia, for term ending October, 1876. Price, five cents. Philadelphia: C. K. & W. D. Hammitt.

THE PEOPLE'S PULPIT: Containing Sermons by Stephen H. Tyng, Jr., D.D. Issued in parts. Price 25 cents.

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THE PHRENOLOGICAL JOURNAL AND LIFE ILLUSTRATED.

VOL. 65. 1877.

NUMBER 3.] *September, 1877.* [WHOLE No. 465.



RICHARD M. THOMPSON,

SECRETARY OF THE NAVY.

THE portrait before us indicates a man of uncommonly active temperament, as free from grossness and coarseness as a man well can be. There is almost feminine delicacy in the structure of the face and in its expression, and that peculiar absence

of animalism, hardness, severity, tyranny, and vulgarity which unfortunately mark so many faces and heads, particularly those of men prominent in the affairs of public life. The reader will observe that the side-head seems flattened; it is not bulged out between the corner of the eyebrow and the opening of the ears. We sometimes see heads that are very round and thick from side to side, indicating financial selfishness, animal appetite, with elements of cunning and cruelty. That sort of development seems to be quite deficient in this head, and therefore we have a right to expect a delicate, respectable, refined, spiritual-looking face. Being tall and commanding in figure, and being entirely free from surplus fullness, he must be remarkable for his physical activity—for a lithe, elegant, graceful style of action. He must be easy in his working power, and every fiber of his constitution be obedient to the mandates of the judgment and the will. For a man who is over sixty-eight years of age he has a young, sprightly look. There is nothing in that face that looks weary, worn, and sluggish—as if life had begun to be a burden; but everything about it speaks of that bright, cheerful spirit which relishes all that belongs to life, and appreciates everything that is refined, intellectual, moral, and spiritual.

That is a very harmonious intellect. The perceptive organs being large, enable him to appreciate all the facts of life; the qualities of matter; impart the love of truth, the disposition to acquire information, and the ability to use it to good advantage. The middle section of the forehead shows memory of facts, places, and times. He has the sign of excellent language, and the talent to acquire literary knowledge. The upper part of the forehead shows analytical power, discrimination, ability to reason and think, the disposition to study mind and motive, and ability to comprehend, at a glance, the qualities and characteristics of men. He appreciates the witty and the beautiful; is strongly inclined to be upright, sympathetical, devotional, persevering, and honest.

He has the sign of energy combined with activity, and will incline to mingle intellectual and moral qualities with all the forces of his nature. He is not a man who is adapted to smite his way through physical obstacles and become master of affairs connected merely with matter, but is a natural educator; is adapted to teach, to put forth ideas, to lead the world in its intellectual and moral phases, rather than to guide its fiscal affairs and achieve its physical ends. Some men are adapted to fight the battle of life in building roads through mountain regions, riding the stormy ocean, and curbing the turbulence of rough men and fierce animals; they have in themselves a great deal of that which is forcible and fierce, but they are not adapted to rule in the higher realm of mind and character. This gentleman belongs to the mental and moral, rather than to the physical department of life and its affairs.

Of the Cabinet appointments made by President Hayes immediately upon his assumption of the Executive chair, that of Richard M. Thompson, to be Secretary of the Navy, appeared to be received with particular satisfaction. Although nearly seventy years of age, having been born in Culpepper County, Virginia, on the 9th of June, 1809, Mr. Thompson's vigor of body and mind, and honorable career in public and private life, commanded the approval of all parties. He comes of a stock regarded as highly respectable. His parents being in good circumstances, were able to give him an excellent education, including a collegiate course. As a youth, however, he inclined toward adventure, and before he became

of age, roamed into the wilds of Kentucky, where several years were spent in an adventurous career, and then he settled in Louisville, taking the place of a clerk in a country store. The duties, however, of this relation soon became over-tiresome, and he left it and went to Lawrence County, Indiana, where an opportunity being afforded for teaching school, he tried that. A few months sufficed to tire him of pedagogics, and he again entered a store, this time having the intention of making merchandising his vocation. Here, however, he took up the study of law, and devoted his nights to it. After three years' preparation, he applied for admission to the bar of the State of his adoption, and was admitted. This introduction to the practice of law proved but the introduction to an active political career, for the same year of his enrollment as a lawyer he was elected to serve as representative of the Whig party in the Legislature of Indiana. The following year he was re-elected, and the year after that, viz., 1836, he was chosen Senator, and during the two years' term served as president *pro tempore* of the body, and acted also as Lieutenant-Governor.

The exciting Presidential campaign of 1840 awakened his zealous interest, and he labored in behalf of the Harrison party, both as a writer and speaker. At the election he served as Presidential Elector. All this political experience served to advance his reputation materially, and in 1841 he was made a Whig candidate for Congress, and elected for the term which ended in 1843. In 1844 we find him again a Presidential Elector; in 1847 a second time candidate for Representative in Congress, and successful. At the close of this term he withdrew somewhat from active politics, and devoted himself to the practice of his profession at Terra Haute. His friends did not, of course, let him off easily, but proffered numerous honorable positions, which he declined. The confidence which was placed in his ability is exhibited by the fact that, under President Tyler's administration, he was offered the appointment of *Chargé d'affaires* to Austria. He was also offered the office of Recorder of the General Land Office by President Fillmore.

In 1860, after ten years of private life, we find him again in the arena, framing and reading the resolutions adopted, as its platform, by the Republican Convention at Chicago. As may be inferred from this participation in the canvass, he was a warm supporter of Lincoln, casting his vote in his behalf as Presidential Elector in 1864. He has the reputation, in the West, of having prepared a greater number of party platforms than any other living politician. In 1868 he was delegate to the Republican National Convention in Chicago, which nominated General Grant. In 1876 he acted as chairman of the Indiana delegation to the Cincinnati Convention, at which time he offered the name of Senator Morton in a speech which was marked by its vigor and eloquence.

Mr. Thompson is in the possession of excellent health, his tall, commanding figure evincing in every movement the elastic energy of fifty, and such mental freshness as is rarely met with in persons of his age. His countenance is indicative of strength, softened and refined by culture, and it is attractive to the observer. As a speaker he is dignified—a little formal, perhaps, yet persuasive and impressive. He is considered one of the best political speakers of the day. The general poise of the man reminds one of the characterizations of gentlemen of the old school.

THE MUSCLES AND FACIAL EXPRESSION.—The great Callen has said, that man alone among all beings possesses a physiognomy, because alone he has a soul; and has received an open and smooth visage in order that nothing might fetter the external manifestation of the numerous passions which agitate him. Hence, the marvelous personal dissimilarity among human beings, which the increase of mankind will never diminish. Poets and painters labor unceasingly to depict the ideal human visage, to search to portray the primitive type; and physiologists, not the less laboriously study by what mechanism the features undergo so

numerous changes, under the influence of the passions. In this study Duchenne, of Boulogne, has long been distinguished by the perseverance and the ingenuity of his searches. There are twenty-six muscles which bring about the expression of the features, and while each can act in an isolated manner, they ordinarily work in groups of twos and threes. M. Duchenne not only produces the expression of the passions by electricity, while the subject operated upon is perfectly passive, but he fixes these impressions by means of photography. According to him, the features are never in a state of repose, and certain movements, constantly repeated under the influence of a predominating sentiment, produce those wrinkles which form the stamp of physiognomy; hence, why the face is designated "the mirror of the soul." Duchenne asserts that these tiny muscles which are developed upon the skin of the face, constitute an immutable alphabet for expressing the same sentiment among the peoples the most separated, thus indicating a common origin. These movements of the features are a natural manifestation, quite independent of the will, and this absence of connection can be best comprehended in the case of a man, a prey to natural terror, and the accomplished actor, who succeeds in depicting the same passion by force of will.

LETTERS FROM A SON IN COLLEGE.

No. I.

THE STUDY OF METAPHYSICS ACCORDING TO THE SCHOOLS.

MY DEAR FATHER:—I write you in much perplexity and discouragement for some words of counsel and cheer, if there are any that you can give me. We have just finished our first term of Senior year, and have passed through our course of instruction in mental philosophy. I have always regarded the studies of Senior year as well fitted to crown our course of instruction, and have looked forward with pleasing anticipations to the time when we should be freed from the dry details of Greek roots, conic sections, and logarithms, and should rise into the higher fields of political science, and mental and moral philosophy. But I confess, as I sit to-night looking back over the term just closed, and listening to the boisterous rejoicings of my fellow-students over the last examination finished, that I feel quite blue and disheartened. Your previous letters gave me such clear ideas of the wise adaptability, the harmony, and the complete unity which characterize the elements of man's physical nature, and showed me how completely our physical well-being may be secured by obedience to the laws which govern our bodily frames, that I looked forward with much expectation to our course in mental science, hoping that it would give me as clear an exposition of man's mental nature as your letters had previously done of his physical. But our course of instruction in this department is finished, and my expectations have not been realized.

This has occurred not from any lack of diligence on my part, nor from want of ability and faithfulness on the part of my teacher. He has certainly been zealous in his endeavors to give me a clear view of the principles of the science, and I have applied myself so earnestly to the subject as often, I fear, to violate your express injunctions in regard to health. There is something about the system so incomprehensible and ambiguous, and when applied to the common affairs of life, so impracticable and unsatisfactory, that it has sometimes appeared to me more like a figment of the imagination than a science founded in nature. Were I alone in this opinion of the subject, my inability to obtain a clear view of it might be attributed to mental incapacity. But since some of the best scholars in the class have met with the same difficulties which I have experienced, and complain of their inability to make any practically useful application of the principles of the science, I can not but think that the fault must lie in the subject itself, or its method of treatment.

But perhaps, after all, I am premature in my despondency because I have not obtained a clear understanding of the subject in a single term. For I remember that one or two lessons were taken up at the beginning of the course with a consideration of the peculiar difficulties which naturally lie in the way of mental investigation. "The subject," we were told, "is, for many reasons, obscure, demanding the most patient and profound study." The difficulty of turning the mind in upon itself, and making its own phenomena the object of its investigation, was represented as one of the greatest magnitude, because from infancy "the mind has been accustomed in its agency to turn its attention outward to the phenomena of nature, and gain its facts in the perception of the objects of an external world." This old habit, we were told, must be broken up, and a habit of looking inward must be cultivated. "The mind is to make its own phenomena its study, and turn its attention inward on its own action. It is, as it were, to hold itself out to its own inspection, and turn itself round on all sides to its own observation. The organs of sense must be shut up, and the material world shut out, and the mind shut in upon itself and made to become familiar with its own action." For we could not expect to make any satisfactory progress in mental science till we had acquired this habit of introspection.

We were told, moreover, for our encouragement: "That it should not be anticipated by any student that this difficulty would be overcome without rigid and persevering self-discipline, because the effort steadily to look in this unaccustomed direction induces a weariness which destroys the capability for clear perception and patient investigation. On this account the fixed and prolonged observation of the inner mental world is the chosen employment of comparatively few minds, probably not more than one in a thousand of our more enlightened communities."

These difficulties, it must be conceded, are discouragingly formidable, and well calculated to dishearten all but the one in a thousand who is so fortunate as to have a natural predilection for shutting up the organs of sense, shutting out the material world, and shutting in the mind upon itself.

I am really in earnest in my desire to gain a clear view of the laws and principles of mind; and though my efforts thus far have been discouragingly unsatisfactory, I do not propose to give up my search after truth; but that search would be prosecuted with much greater zeal and hopefulness if a number of doubts and difficulties which have presented themselves to me during the progress of my study should be satisfactorily resolved. I will therefore present these to you, hoping that you will be able to give them clearer and more explicit explanations than I have been able to obtain from my teacher.

We have been taught that the mind is a self-active agency, and that as such it impels the individual to certain habits of thought, modes of life, and courses of conduct, which constitute in him a distinctive character. Now my idea of the object of mental science is that it should resolve the mind into its constituent elements, and give us such a comprehensive view of its principles and laws that we may be able to trace the deeds and characters of men back to their sources in the mind. And having thus obtained a knowledge of the mental faculties, their laws and modes of activity, then we would have definite rules for the training and developing of mind and character. It was upon principles analogous to these that I pursued the study of physiology, and with the very best results. By becoming familiar with the different parts of the body, their functions, and laws of activity, I have been enabled to trace many of the ills which I formerly suffered back to their true source, and to deduce rules for the practical direction of my conduct, which have insured to me the best of health. But in my efforts to reduce to practice the principles of mind as they have been unfolded to us during the past term, I have utterly failed. In the first place, I have never been able to get a clear idea of what constitutes a mental faculty. In the second place, I have never been able to learn by what laws, if any, the mental faculties are governed. And in the third place, I have never been able to trace the

common characteristics which we observe among men back to their origin in the faculties.

On the contrary, I have become bewildered amid a mass of obscure definitions, mazes of metaphysical subtleties, flights of metaphysical fancies, and wire-drawn distinctions, in which it was necessary to draw upon the imagination to discover any differences. In short, so far as obtaining rules for the practical direction of conduct in the common affairs of life, I might just as well have devoted my time to the study of Choctaw.

Now, in the first place, I would like to have a definite idea of what constitutes a mental faculty. Sensation is given as one of the "primitive facts of mind," and we have in this the five senses as faculties for hearing, seeing, tasting, smelling, and feeling. These faculties are clear and distinct. Each has its appropriate organ, which performs its peculiar function in accordance with the laws of its organization. After we have become familiar with these laws, and are able to use the organs of the five senses in a manner favorable to their highest efficiency, we feel that we know all about these organs which is practically useful. But when we are told that "the identification of the reciprocal modification of both the recipient organ and that which has been received, is precisely what is meant by sensation," we instinctively feel that we have been elevated from the commonplace sphere of the practical into the exalted region of the metaphysical.

Now a mental faculty, as near as I can get at it, is a mode of mental manifestation. It is in a similar sense one of the ultimate principles of mind, as an element is one of the ultimate principles of matter. The human mind is divided by our system of philosophy into three grand divisions: the Intellect, which is the capacity for knowing; the Susceptibility, which is the capacity for feeling; and the Will, which is the capacity for willing. Under Intellect there are given as mental faculties—external sense, internal sense, fancy, memory, conception, association, abstraction, reflection, judgment, syllogistic conclusion, induction, imagination, and reason. Now these being the elements or the ultimate principles of the intellect, I suppose all mental exercise connected with the capacity for knowing, must originate in one or the other of these mental faculties. When, therefore, we are told that "the poet, mathematician, painter, or sculptor seems often to have an innate propensity, each to his special employment; and different trades and occupations often find such as have a natural adaptation to the particular pursuit," I suppose we must look to the mental faculties as the source of these original biases, because these, doubtless, result from an unusual endowment of one or several faculties.

What, then, are the faculties which give to the poet, the painter, or the sculptor a natural predilection for his special pursuit? I should suppose that fancy, conception, association, and imagination are all essential to a taste for these different pursuits; but I am at a loss to explain why, with these faculties, the poet is not equally a painter, or the painter a sculptor. For is it not true that a man may be an excellent poet, but a bad painter? or a skillful sculptor, without having any inclination to write verse or paint pictures?

Again: I observe among my fellow-students a great diversity of talent, which I have endeavored in vain to trace back to their origin in these mental faculties. One is an excellent mathematician, but in other departments of study is only an average scholar; another is especially distinguished for his ability as a writer and speaker; and another for his skill as a musician. Now what is the faculty which gives a natural taste for mathematics? Is it abstraction, reflection, induction, or reason? Doubtless, some or all of these are essential to the mathematician, but are they not equally as essential to the metaphysician? To what faculties are we to look for the natural ability to give expression to ideas by voice or pen? Is it to association, judgment, or internal sense? To what faculty may a talent for music be referred? I confess I am unable to conjecture, unless it be syllogistic conclusion.

Upon referring to my teacher for an ex-

planation of these difficulties, he said that these biases might result from training, casual occurrences, or the circumstances in which the individual is placed. Much depended upon attention, or the power of fixing the mind intently upon any given subject. Sir Isaac Newton, he said, once remarked that he did not know that there was any difference in mental capacity between him and other men, except in the power of application. He was able to fix his mind so intently on a given point as to shut out entirely all extraneous ideas; and thus he was enabled to bridge the deepest chasms, and scale the loftiest peaks of philosophy, which to men of less intensity of mind were impassable and inaccessible. I could see that training is very important in attaining excellence in any occupation; I could see, also, that the circumstances in which an individual is placed may greatly favor the development of certain tastes. But it occurred to me that many individuals, even with the best training, are often surpassed by those whose opportunities have been limited. And if excellence in any given direction is merely a matter of application, I suppose Newton, who was a profound mathematician and philosopher, might have become equally as celebrated as a poet or a painter, had he given his attention to these pursuits. Possibly this might have been true of Newton; but I think the common experience of men is opposed to such a theory; certainly among my fellow-students there are those who excel in some branches with very little effort, while in other departments they are unable to obtain an average standing, even with the most diligent application.

But my difficulties augment the more I endeavor to get a substantial basis for my progress in clear ideas of these mental faculties. My text-book says of reflection, which it gives as one of the primitive faculties of mind, "The *habit* of reflection is always with difficulty attained." As the mind is a self-active agency, and its faculties are merely different modes of its manifestation, I supposed that these faculties were innate in the mental constitution, and manifested themselves spontaneously in their different ways upon the presentation to them of their appropriate objects. But here we find a faculty which is synonymous with habit, and which can with difficulty be acquired. Am I to understand that the mind is a blank at birth, and that all its faculties are acquired? If so, can there be any such thing as mental science? For upon what principles can it be affirmed that the mind will go out into such and such modes of manifestation?

My attempts to unravel the mystery of these faculties are still further complicated by the introduction of three general states. "The mind, as self-active, produces itself into several different general states, which thus become each respectively a capacity for specific single exercises. It is here assumed that all single acts may originate in one or the other of these general states, and which states we will here denominate as the Intellectual state, the Emotive state, and the Willing state."

These different states are illustrated thus: "You may imagine yourself as having been among the audience which listened to the great Athenian orator in one of his terrible Phillipics. In an intellectual state you apprehended his exordium, so appropriate, so captivating; his narration of topics and arrangement of matter, so skillful, so logical; his delineation of acts and events, so graphic, so consecutive; and his whole argument, so comprehensive, so conclusive; that your mind was elevated and filled with the thought which revealed and proved and made you to know so much. But you did not rest merely in knowing; you opened your mind to emotion and felt the glow of patriotism, the deep sense of national honor, the shame of servitude, the disgrace of cowardice, and burning indignation against the tyrant. But neither did you rest in this state of deep emotion; you roused every energy of your enkindled spirit, and held all ready for the most prompt and determined execution; while you shouted with the thousands of Athens—'Let us march against Philip!'"

Now, if the mind, as a self-active agency, goes out in specific modes of activity, through its individual faculties, I can not

see the use of encumbering the subject with a consideration of these different states. When a man approaches me with a view of winning my support to a certain measure, my reflection, judgment, and reason are called into activity in the consideration of the facts and arguments which he presents. Other faculties may indeed be concerned to a greater or less extent in giving me a correct view of the merits of the subject, but it is by no means essential that every intellectual faculty be called into activity. What, then, is the advantage of considering the mind as first projecting itself into a certain general state, which embraces all these faculties, and then being diverted into one, two, three, or four of the dozen different channels comprehended within that state? The only explanation of the matter which occurs to me, is that the manifestation of the individual faculties may be intensified by this operation — as the water which turns the mill-wheel has its power increased by being diverted from the broad stream into a narrower channel.

I suppose it is reasonable to think that among the audience of the great Athenian orator different individuals would be differently influenced by his Phillipics. In the Intellectual state, some would be particularly struck with the force of his logic; others with the beauty of his diction; others with the power and energy of his style; and others with the appropriateness of his illustrations. In the Emotive state, also, some would expend their feeling in admiration of the orator; others would have their patriotic feelings deeply stirred and be moved to violent indignation against the tyrant; while others would listen to the oration with a comparatively calm exterior. Now I would like to know the connection between these different general states and the different modes of mental manifestation under each state. Is it absolutely essential that the mind project itself into one of these general states before it can go out into a particular mode of manifestation? Or, if two mental leaps are essential to the manifestation of a particular thought, emotion, or volition, is there anything in the first leap to indicate in what direction the second will be taken?

I hope you will not consider me over-critical in these matters, but really my difficulties seem to grow the further I proceed; for here comes in another view to complicate these general states still further. My text-book says: "An original peculiarity of mind may be an occasion for these general states in reference to particular ends of action. The native artist is ever prompt to know, feel, and will in reference to favorite topics. The native poet or mathematician is permanently in readiness for all specific exercises which relate to his congenial pursuit. But aside from all constitutional bias, an act of will may be an occasion for the self-active mind to produce within itself the required general capacity."

When I had attained a notion of the individual faculties, I supposed I had reached the last analysis of mind, according to our system. It appeared to me that it only required the given occasion to cause the mind to go forth spontaneously into exercises of memory, association, abstraction, conception, etc. But I found that back of the individual faculties lay three general states, and that it was necessary to consider the mind as projecting itself into one or more of these states before it was capable of manifesting itself through the individual faculties. Here, surely, I thought, I had reached the true basis of our philosophy, beyond which it would be unnecessary to study mind, unless we would discover its essence, and all attempts of this sort our philosophy disclaimed. But now I find, that even in the general states I had not reached the last analyses of mind; for back of these, as their cause and occasion, I find constitutional bias and will. I had supposed that these biases originated in a predominance of one or several mental faculties, since it is through the mind that they are manifested, and no attempt has been made to go back of the mind to ascertain their cause. Hence we have the anomaly of an irresistible tendency to activity of a portion of the mind, projecting the mind as a whole into a certain state, that it may go out into activity through the individual faculties which constitute this very portion.

Again we are told that "the Intellectual

state is immediately from the self-activity; the Emotive state is attained only in connection with the Intellectual state; and the Willing state is attained only in connection with both the Intellectual and the Emotive states. A choice or any act of the will demands an object in which it may terminate, as truly as does an emotion. We can not choose, except there is something in the consciousness on which the choice may fix itself. There must be some object as known, and thus the necessity for an Intellectual state. But the mere dry apprehension of an object is not a sufficient occasion for a choice. There is nothing which can properly be called a motive or reason. Some feeling must be awakened toward the object, either of desire or obligation, or the conditions for volition are not given. We can not choose unless there is something congenial to be attained in the choice, and this can occur only in an Emotive state. As well no object as an object which awakens no feeling of interest or of duty. The Willing state, as capacity for putting forth any voluntary exercises, must thus be preceded by both an object known and an object felt, and must thus be occasioned by both an Intellectual and an Emotive state."

Contrast this with the closing clause of the previous quotation: "An act of the will may be an occasion for the self-active mind to produce within itself the required general capacity." Here again we have the anomaly of the will, which can be manifested only in the Willing state, which state "must be occasioned by both an Intellectual and an Emotive state," actually producing the states, without the previous existence of which, we were told, it itself could not exist.

I begin to fully appreciate the magnitude of the difficulties against which we were warned in the beginning. I fully concur with our author that "the subject is for many reasons obscure;" for even with "the most patient and profound study" I have not been able to fathom the mysteries of its fundamental principles. Perhaps, however, it is asking too much of metaphysics to demand that its principles be brought to the test of common experience, since in the investigation of mind we were expressly enjoined "to shut up the organs of sense, to shut out the material world, and to shut in the mind upon itself," that, I suppose, it might revel amid the vagaries of its own imaginings, untrammeled by any considerations of their practical utility.

But again: We are told, "Where no particular bias is given from nature, and only passing circumstances prompt the mind to go into its general states, these will be especially fluctuating and unstable if not held in one direction by occasion of a steadfast purpose. Nothing makes a man consistently steadfast in either intellectual character, affection, or voluntary action, but the perpetual dominion of a deep and steadfast purpose."

Well may I cry out, like the Greek philosopher of old, "Eureka! Eureka!!" for I have at last found the ultimate principle of mind — "a deep and steadfast purpose." We have got down to the root of the matter at last; for back of the individual faculties, back of the general states, lies the all-potent principle — a deep and steadfast purpose. The states and faculties are its mere vassals. It holds the reins, and they are driven by it whithersoever it chooses. We will not question too closely the origin of this deep and steadfast purpose; whether it is a sort of *nisus*, springing up within us, perfectly independent of the material body and the immaterial soul; or whether it comes from the heavens above, the earth beneath, or the waters under the earth. It is enough to know that in it we have reached the true basis of our philosophy, beyond which human investigation becomes vague speculation. As the ancients rested satisfied in the belief that the world is supported on the back of a tortoise, without troubling themselves about what supported the tortoise, so I will rest satisfied in this tortoise of the mental world—a deep and steadfast purpose.

But I fear I have already wearied you with my doubts and difficulties, though I have not yet presented one-half of them. Perhaps, however, when the difficulties which encumber the principles of the science shall have been explained, those which occur in their application will be satisfactorily answered. While if the former can not be resolved, further consideration of the subject will be useless. Affectionately yours,

FILIUS CONFIDENS.

THREE GLORIOUS BEINGS ONCE.

THREE glorious beings once
Used all their highest powers,
The noblest work to make
To grace this world of ours.

Minerva, Neptune, Jove,
All joined the contest great,
And Momus was the judge
Their rival claims to state.

Then, first, Jove made a man,
One step from angel down—
To lead creation's van,
And wear creation's crown.

His brow a sky serene,
His eye a starry fire,
With godlike form and mien,
His soul a quivering lyre.

A house Minerva made,
Worthy an angel's home;
With halls with amber laid,
And shining sapphire dome.

And star-eyed lilies fair
Its azure walls traced o'er,
And gems and daisies rare
Inlaid its golden floor.

Over its windows high
Unfading roses climbed,
And tireless fountains nigh
Their fairy music chimed.

Then Neptune made a snowy bull,
With art and wisdom wise;
High arching horns so beautiful,
And great, far-seeing eyes.

Then spake the critic Momus—
So dignified and wise—
"This man's a failure, worthless,
No beauty in him lies.

"There should have been a window,
A window in his breast—
To show each thought and feeling,
Each fancy he possessed.

"This house is all lost labor—
It should have been on wheels,
To move from evil neighbor
Whene'er he swears or steals.

"This bull is very faulty, too—
A bull alone in name—
His horns should be his eyes below,
To see where he takes aim.

"There's no expression in his face,
No graceful curve of throat;
He don't deserve the smallest place
Among the bulls of note."

Then out from heaven, great father Jove,
With vengeful, flashing eyes,
The senseless critic furious drove,
And thus indignant cries:

"No beauty the fault-finding one
In others good can see;
Before you blame what we have done,
Yourself more perfect be.

"For he who finds the most of fault
Has most of faults his own;
And only greatest souls can let
Another's faults alone.

"For pruning here and praising there—
So all the flowers bloom forth—
Is the true critic's noble care,
And is his real worth.

"Ere you condemn our labors all
In spirit or in letter,
To aid you wit and wisdom call
And make us something better.

"Since Jove is older than you all,
Ye critics nice and wise,
Deep in your hearts his words should fall
Down from Olympian skies."

LYDIA M. MILLARD.

A GOOD WORK.—Whoever has written a single paragraph which has strengthened the weak, or improved the ignorant, or encouraged the faint-hearted, given fresh hope to the despairing, or softened the hard-hearted, or cleared the mists from the doubting mind, brought a happy smile into the eyes of the suffering, or turned a wanderer from the paths of destruction to the paths of Life, has certainly done a good work, although his reward may not be here. His work may seem as nothing in the eyes of those who judge of work simply by the number of dollars and cents which it has earned, or at which it may be estimated. Not that it should be inferred that good work does not deserve remuneration; but, whether rewarded or not, our work should bear the test of our own scrutinizing conscience. G. A. H.



THE KINGYO OF JAPAN.

LIFE IN THE DEEP.

THE researches of naturalists and explorers in the depth of the sea have revealed many things of which we previously had no conception. Not only the wonderful plants which are found hundreds and thousands of feet beneath the surface command the admiration and protracted analysis of scientists, but the extent and variety of animal life in the water fill us with astonishment. Not many years ago the keeping of a tank in which fish were preserved alive had the character of a curiosity; now many homes are adorned with aquaria, in some cases the private collection being of considerable extent, interest being shown in that direction by some persons just as libraries or collections of coins or bric-à-brac are made by those who have the time and means as well as the *penchant*. It is certainly a very pleasant employment of a part of one's leisure, to watch the movements of fish. Perhaps there is even more interest attached to the observation of the habits of the animal whose home is the water, than of the animal who lives on land, because the relations of the former are so entirely different and require a specially adapted organization. We have watched gold fish darting within the narrow boundaries of a glass globe and found much enjoyment in scanning their structure and action, and do not wonder that children are attracted by the glittering finny creatures whenever they see them.

In Europe the influence of the aquarium as an instructor of the public, has been appreciated to the extent of establishing it as a permanent feature in some of the large cities. Fish from the different quarters of the globe are there collected and placed in tanks so that their shapes, colors, equipage of fin and spine and gill can be conveniently seen. In London there is a collection of

very large extent; from the first opening, it has proved a central attraction to the London public. Some attempts were made in this country from time to time to organize an aquarium on a large scale, but until recently have not proved successful.

Now the citizens of New York rejoice over a series of animated pictures of life in the deep which have no superior anywhere. An enterprising gentleman by the name of W. C. Coup conceived the plan of which the present enterprise is the outcome, a few years ago. He proposed to the city authorities to construct an aquarium in the Central Park, under conditions which were necessarily connected with an undertaking so expensive; but as the Park Commission was not authorized to treat with him, on account of certain legal restrictions forbidding the use of public grounds under such conditions, Mr. Coup determined to attempt its establishment alone. Subsequently, however, other persons were associated with him, and the work was carried to the elaborate completion which it now presents.

The building, which was erected specially, is admirably adapted for the purpose, both by location and furniture, having an area large enough to permit a tasteful and convenient arrangement of tanks, rustic work, and statuary, so that the appearance of the whole is that of a garden where one can find grateful refreshment even when the dog-star burns the fiercest, on account of the great bodies of water inclosed in the tanks. There one can study the natural history of the sea in a scientific manner, if he please, so great is the variety of subjects afforded by the collection. There are fish large and fish small, the shark, the porpoise, those amphibious monsters, the hippopotamus, the sea-lion, and the alligator, the whale, the sturgeon, the skate, the octopus, the little sea-horse, the stickleback, the crab, the oyster and the scallop, the star-fish and the seal, the anemone and the sea-urchin, etc. There are the wonderfully-tailed—which is represented in the engraving at the head of this article—and the beautiful and graceful angel-fish, from the China seas; as well as the ugly-looking gurnard, dragon, and toad fish; there are fish with which we are familiar and hundreds which we never saw, but all possessing characteristics of interest, every one revealing in this new, yet very natural relation, habits and



SEA-HORSE.

qualities deserving close consideration. Here we find the little stickleback proudly disporting himself, asserting his sovereignty over fish much larger, building his nest in sight of the visitors. It is the father stickleback, as the reader probably knows, which takes care of the nest after the mother has deposited her eggs; thus performing the parental duty we humans generally leave to woman, with all the anxiety and solicitude which we would impute to the most earnest of parents.



THE ANGLER.

their varied organism, and their beautiful coloring, which truly entitles them to the name of the "flowers of the sea." There is the strangely-constructed angler, with his baited line, an engraving of which is given. Then, too, we are struck by the grotesque ugliness of the sea raven, whose very full armament of spines declares him a rather ugly customer to run against. The beautiful angel-fishes are a central attraction to visitors as a matter of course. We remember many years ago lingering with boyish delight over a case in Barnum's old museum down town, in which were two or three dried or preserved specimens of this inhabitant of the China seas. One can there safely contemplate those monsters, the shark, the hippopotamus, and the alligator, of whom all have read many terrible stories. Perhaps the seals furnish as much amusement as any of the denizens of the Aquarium. These soft-eyed creatures, with their graceful movements and really intelligent faces, afford entertainment to old and young.

One of the features worthy of notice of the Aquarium is its department of fish culture. There has been a great deal of talk in the newspapers during the past five or six years on this subject, but a practical illustration of



ALLIGATOR AND YOUNG.

There is the sea anemone, which strikes the visitor as more worthy a place in the garden among the plants than in the tank with the quick-darting finny tribe. But to the scientist these creatures offer a peculiarly attractive subject for study on account of which may not have been seen by one in ten of those who have read the accounts of the operations of Mr. Seth Green and others. In one trough may be seen, at the proper season, a host of minute perfect fish forms, in another the

embryo fish in the masses of quivering jelly or spawn.

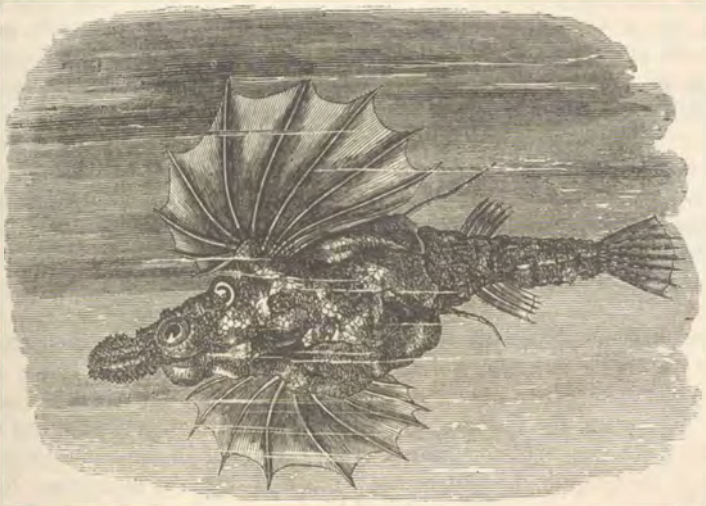
It is from Japan that has been procured the wonderful three-tailed fish, or kingyo, for the possession of which an incredible sum was paid. What do our evolution friends say to him? But not only do we find fish, fish, fish, in this panorama of ocean life, but also scientific apparatus in proper departments for the use of the expert naturalist or student. There are experimental tanks, microscopes, a good assortment of scientific periodicals, a laboratory wherein plaster casts are taken of singular or rare specimens for the museum of the Aquarium, and for other educational institutions which may desire them. The aim of the management has been to present to the public as complete an organization of its kind as time, talent, and money could procure. No public work or institution in the city of New York surpasses the Aquarium in interest, in our opinion. Both entertainment and solid instruction are afforded to



ANEMONES, BULL-HEAD, HARVEST FISH, HERMIT CRAB, SCALLOPS, ETC.

the visitor. It is an excellent place for young people. Additions are being made constantly to the array of curious and rare fishes, so that repeated visits are indispensable to one who would learn much of life in the water, and a day spent there occasionally by a parent in company with his children could not but add materially to their stock of information.

EDITOR.



SEA DRAGON.

Department of Our Social Relations.

Domestic happiness, thou only bliss
Of paradise that has survived the fall!
Thou art the nurse of virtue.

OUR WORK.

WE are stepping upon the threshold of a new century, and Progress is our motto. As a nation we have taken vast strides in the mechanical, the scientific, the artistic, the intellectual realms, but what advancement in the moral? Has it been in keeping with the rapid march of progress in other directions? Alas! the reeling, staggering, groaning monster, Sin, lifts its accursed head and answers, "No!" The myriad prisons and kindred institutions of our land echo with the sound of hollow voices answering, "No!" The vacant stare, the hollow eye, the piteous wail of the destitute and homeless answer, "No! No!"

But why so much iniquity, woe, and crime? With five letters the major part of the problem is solved—drink—strong drink.

The vices accruing from indulgence in stimulants are so familiar it is not necessary to reiterate them. They grow as rank as weeds in the black soil of the West, and are almost as familiar. But there is one so black, so horrible, that it commands more than a superficial thought in this column, viz., the deliberate murder of one man by another while under the influence of the deadly venom, strong drink. When we consider the enormity of this crime committed while in the wild frenzy of intoxication; this act of unconscious volition, staining the hands with the blood of a dear father or mother; when we consider the brutalizing effects resulting from excessive indulgence in liquors, can we, as enlightened beings, countenance in any degree the

use of fermented beverages? Can we withhold our influence for the right? Can we labor too earnestly in opening the eyes of the ignorant to the myriad injurious effects upon the physical, mental, and moral condition of the drinker? And not of the drinker alone, but the curse he brings directly and indirectly upon untold numbers, hereditary and influential.

Science and common-sense teach us that all fermented drinks—products of descending changes—contain little or no nourishment for the physical system of man. The exhilarating and stimulating effects produced by this unnatural narcotic are often misunderstood to be genuine strength; but when the stage of abnormal activity has subsided, a reaction ensues, and the building up of wasted brain and nerve-tissue commences.

Dr. Jewett, a veteran in the temperance lecture field, classes intemperance in three stages: first, increased activity of brain, producing merriment, excitement, and desire for a good time; second, derangement of mental powers—the criminal stage; and, third, the complete surrender of body and mind, resulting in stupidity.

Much is being said with regard to prison reform. Would it not be wise to effect reform outside the prison walls? Shall we, with folded hands, see our fathers, our brothers recklessly walking near the verge of the precipice; see the feet draw nearer and nearer; watch listlessly till the fatal step is taken, and then search amid the *débris* below for their mangled bodies, and vainly endeavor to restore them? God forbid! Let us be up and doing, for "soon the night cometh," and we can not work. Let us vigilantly endeavor to exterminate the fatal germ generating such poisonous fruit! Let us strike at the monster-root of so much evil, and in so doing forget not that we are dealing with precious souls. Aye, many of God's noblest and best are the unhappy victims of Bacchus. We can not treat them too kindly; we must extend to them the strong hand of sympathy, friendship, and help—make them to feel that they are our brothers. We must go down to them; we can not stand on the snowy mountain of disdain and win them by our freezing condescension. No! no! They must be made to feel that if they endeavor to rise from their fallen condition they will receive the sympathy, encouragement, and aid of all true souls with whom they are surrounded; for who can fathom the drunkard's need of sympathy?

There has been no practical method established for the complete reformation of the inebriate equivalent to the Reform Club. All members of the organization previously pledge themselves to abstain from any and every kind of intoxicating drink, and to sustain one another in conforming to their new mode of life. Meetings are appointed regularly, at which officers chosen from the members of the club preside, and the responsibility thus espoused serves to revive the embers of former manliness long buried 'neath the ashes of dissipation. New members are continually brought into the fold through the influence of present members, and thus the good seed is being sown in some parts of our land.

But however vigilant and zealous the members of such organizations may be, they need the hearty co-operation of wives, sisters, and mothers. Indeed, they have already accomplished more, in the brief time since the praying bands were organized, than all that has been accomplished hitherto. They struck the key-note to success—prayer—and, trusting in God, they have received strength to hope on—work on—and their efforts have been and are being crowned with success.

Many of the men rescued from a drunkard's grave have no homes, or very unattractive ones, and they need pleasant, inviting rooms, provided with books, pictures, music, and different sources of amusement, where they may assemble evenings, or spend their leisure hours. A cheerful resort, such as the loving hearts and willing hands of all true wives and sisters should aid in appointing, will serve as the beacon-light whose shimmering rays will warn and entice them from the yawning abysses and seductive dens reeking with odors and resounding with the drunken *canaille*.

As we step upon the threshold of the new century, and behold the light of its glorious

dawning, let us catch a glimpse of the illustrious achievements that will inevitably result from our whole-souled endeavors in the right. Let us burst the bonds of lethargy that have too long withheld us, and strive, with new inspiration, to fight the battle of life.

No one is exempt from duty in the temperance reformation; it is a call for universal labor. Physicians should avoid administering the poison; clergymen should preach temperance from the pulpit; fathers and mothers should brand the truths of temperance upon the plastic minds and hearts of their little ones in such a manner that they will ever cherish an implacable revulsion for every drop of degradation, be it wine, beer, or any product of distillation. Young ladies should not withhold their influence in the great reformation; their sphere is unlimited. There should exist, in every town, three flourishing temperance organizations. The Reform Club, the Woman's, and the Young Folks' or Children's Society. Opportunity to escape from former iniquity and protection from it is thus afforded persons of all ages and classes. No sectarian, political, or aristocratic views should be allowed to retard the universal co-operation of all members.

When every temperate citizen is keenly alive to the importance of this work; when what is disreputable for the poor man is considered disreputable for the rich; when temperate men only are elected to office; when the intellectual, influential portion of our communities live temperate lives; when the moral standard is raised by all to whom power, knowledge, and position are given; when strict compulsory laws join hands with education, intellectual and moral, upon the subject for the masses, we may expect to see not only grog dens closed, but prison cells, now filled, vacant; miserable homes made happy, and the world making an onward and upward progress of which we can now but slightly conceive.

GRAZIL.

LIGHT IN DARK PLACES.

"This mournful truth is everywhere confessed,
Slow rises worth by poverty depressed."—SAMUEL JOHNSON.

CHAPTER IV.

HOW THEY MANAGED TO LIVE.

SADIE did not communicate the affair with the junior member of the bindery firm to her mother that night. She concluded to wait a while—"just keep quiet," as Betty had advised, and see what further developments there might be. She thought that Mr. Gaff would not go so far as to insist upon her compliance with his wishes, and thus drive her out of the bindery; for she had determined to leave it sooner than act wrongly, although the few dollars her labor yielded were important to the little household, as her mother's needle-work could not now be depended upon to procure the food they needed from week to week. The pinch of the times held the Camps in an iron clutch, yet such was the frugality and ingenuity of the mother that the ridiculously small aggregate which the earnings of the three who could work made at the week's end, seemed to go about twice as far as it would in the hands of other housekeepers in her neighborhood. The superintendent of the mission chapel which she attended with all possible regularity, had proffered the aid which his Society was organized to supply, should she need it; but Mrs. Camp shrank from any recourse to charity unless it was absolutely indispensable; besides, she knew that the Society was beset with appeals for help by thousands whose dependence in the way of employment had been lost by the closing of stores and work-shops, and however much their misery might be due to wastefulness or intemperance, the poor creatures were suffering and must be fed. Although often reduced to the last cent before Sadie could draw her fortnight's wages, or she could obtain the payment for the dozen vests which had been sent to the warehouse, yet

Mrs. Camp usually had a piece of bread to give to a half-starved child or woman whose piteous face might look in upon her. The poor know the poor's needs best, and it is intelligent poverty that can best dispense the material of charity.

"Mother, you must be a witch," said Norton, the day after the incidents related in our last chapter; "there's Bumpy's father and mother both living and both working, and getting more money than all of us together, and yet Bumpy says that his 'mam' —that's the way he calls her—goes to the mission for help, and gets a basketful of



BUMPY AS A NURSE.

things nearly every Saturday. And they've only three children; isn't it mean, mother?"

"I don't know their circumstances, Nortie, and we shouldn't be so quick to pass judgment on others."

"Why, mother, Bumpy told me that his 'old pop'—that's how he speaks of his father—had a job down in a foundry and got a dollar and a quarter a day, and his 'mam' went to wash in a boarding-house on Pearl Street twice a week and got a dollar and a half a day for it."

"Well, my son, how much does what his father and mother get, amount to altogether?"

"Let me see," said Norton half to himself, "six times a dollar and a quarter, is—thirty—five—seven—seven dollars and fifty cents, and twice one-fifty is three. That makes ten dollars and fifty cents. But I forgot to tell you that Bumpy's big brother Larry sells newspapers, and sometimes makes more than a dollar a day, and he pays his mother two dollars a week for his board. So that's two dollars more. Twelve dollars and a half. Isn't that more than we get, mother?"

"Yes, my son, nine dollars is a very unusual amount for Sadie, you, and me to earn in a week."

"If you were as big and strong as Bumpy's mother you could make a great deal more money, couldn't you, mother?"

"Perhaps I could, my dear, but now the times are hard for almost everybody and employment is very scarce everywhere."

"But you ought to see the place where Bumpy's folks live. It isn't half as nice and clean as our two rooms. I was there last Tuesday; the carpet was half rags, and bits of wood and shavings lay about, and the stove was cracked and rusty, ugh!" and Norton shrugged his shoulders in disgust. "I don't see why people can't live decently when there's no excuse."

"My son will learn as he grows older that people are very different by nature. Some are born orderly, quiet, economical, industrious, while others, and I fear they are much the more numerous, are born with tendencies to carelessness, disorder, extravagance, and sloth. We must make great allowances sometimes for the defects and weaknesses of people, and at the same time, if we think ourselves much better we should try to do the best we can."

"But it seems to me, mother, that most of these people here don't try much to help themselves. They just lie around, and smoke, and drink, and eat the things given them by other people."

"Many, too many, Norton, take advantage of the kindness of others. It is one of the tendencies of our nature as human beings, that when we are poor, broken down and dependent, we lose courage and strength and begin to despair of getting up again.

This is the case particularly with those who have brought themselves down through bad habits. I trust that all my son sees around him will but stimulate him to effort to rise above vice and everything wicked and low. By striving earnestly and constantly, my dear boy, you will in time rise to a position of honor and usefulness. Many of the best men the world has ever known were born in as humble surroundings as these of ours, and some were born in even lower places, yet industry and determination won great honor for them. The excellent John Todd was born in an almshouse, and the eminent explorer, Livingstone, in his childhood and youth, lived amid scenes like those in our streets. It is what is in you which will make your future respectable, not what is around you."

"Dear mother," cried Norton, with kindling eye, "do you think that I could ever become such a man as Mr. Jeffers?" (Mr. J. was the President of the Mission Society, and sometimes presided at a meeting. He was of noble presence, and of course contrasted very sharply with the rough people whom Norton saw every day).

"Yes, I think my boy can hope to become as useful and good a man. He can try, at any rate."

"Dell," who had been sitting by the window while this colloquy was going on, here shouted out: "There's Mrs. Fadden's baby; oh, what a darling little fat puddin'!"

Norton laughed, and said: "Dell, you ought to see Bumpy tending his 'mam's' baby while she's out washing. He does it just as well as any nurse I ever saw. Bumpy's a real good fellow in some things, or he wouldn't stay home all day taking care of that baby. I guess you'd catch the other boys doing it for their mothers. Bumpy sometimes goes down in the front door and sits on the step with that little fat thing on his knees, and I've heard the boys laugh at him and call him 'nuss gal,' 'mammy's nuss gal,' but 'twouldn't make him angry a bit. And I know I wouldn't like to be tied to such a heavy, dirty-looking baby five or six hours. I used to think it was real hard to have to hold Dell a few minutes when she was a little thing."

"Bumpy's a born nurse, I think," said Mrs. Camp, smiling at his comments, "and you are not. No doubt if he were educated and well trained he would become a valuable man for some public purpose, a teacher, or minister, or superintendent in some benevolent institution. But, Nortie, it is nearly three o'clock, and time for you to go to the *Mail* office for your papers."

"Yes, mother, I've just looked over at the church clock, and will be off in a second."

CHAPTER V.

HOW SHE DOCTORED MICKEY.

A tap at the door of the Camps' apartments was heard soon after Norton had gone out, and little Dell ran to open it. A tall, gaunt woman stood there, whose scanty and soiled garments told of her neighborhood belongings.

"Uh, me little angel, is yer mither in, an' kin the loikes o' me spake wid her?"

"Come in, Mrs. Moriarty," said Mrs. Camp kindly.

"It's sorry I am to be throublin' ye," burst out the poor woman, entering in response to the invitation; "but there's me b'y down wid a faver, an' I'm jist at me wits' end for wantin' to know what to do. Musha, an' didn't I go to the dispinsary this mornin' airly, and the docther promised to come and tind to him, but sorra a bit of the fine jintlemin have I seen all the day."

"Perhaps I can be of some service to you," said Mrs. Camp, rising and laying aside the material on which she was sewing.

"Indade, indade, my leddy, I know ye can be of sarvice. An' shure I wouldn't tak' ye 'way from your worruk, for I know ivery minnit is preciss to ye. But yer kind heart 'll be rewarded, I know, sometime, if the blessin's of such as Bridgit Moriarty and those in the house I'm a knowin' will do it. But," continued the warm-hearted woman, with moistened eyes, "I'd not be afther exposin' yer own swate little darlint. Fur it may be the bad faver my Mickey is havin'; shure an' his face has rid spots on it, and at toimes he's out of his head intirely."

"We will go up at once to him," emphasized Mrs. Camp. "Dell, my dearie, stay very quietly till mamma returns."

Up-stairs went the two into the room of Mrs. Moriarty, where, tossing to and fro upon a thin straw mattress, which occupied one corner, was the little boy Mickey. A delicate child, unfit for the close, unsavory atmosphere of a room which served for kitchen, bedroom and parlor for four, and made more delicate and susceptible to sickness by the coarse, unpalatable food which he was compelled to eat. Mrs. Camp took the case in at a glance. An attack of scarlet fever. There were many similar cases in the neighborhood. The wet and late spring had developed the fell disease in many parts of the city to an almost epidemic extent.



MRS. MORIARTY AND THE DOCTOR.

"Go down to the hydrant and get a pail of water, please, Mrs. Moriarty," said Mrs. Camp.

"Here's wan that was brought up but a minnit afore I wint down fur ye," replied Bridget.

"Let me have it right by Mickey's bed, and if you have any towels or bits of clean muslin let me have them."

Bridget hastened with all a mother's anxiety to provide the articles, and the few towels she had, worn and flimsy enough, were handed to the lady "doctor."

"Now I wish you to notice carefully what I do, so that you can do it yourself."

"Yis, that I will."

Mrs. Camp took the largest and thickest of the towels and wrapped it around the child's body, well up about his little chest, then soaking another in the cool water she applied it to his forehead and face gently, and then wrung it over the bandage, and then resoaking the towel, she again wrung it over the towel-bandage until the part covering the boy's breast was saturated.

"Now, Mrs. Moriarty, you will see by putting your finger on his temple that his pulse is very quick."

"Yis, ma'am, 'tis terrible fasht and strong."

"Well, I want you to freshen this bandage as soon as you find it getting warm to the touch. Squeeze out the water into a basin, and use the cold, and take a soft cloth and now and then bathe his face. Besides, you must rub his feet and ankles to keep them warm, if they feel cold, and keep them covered with that quilt. You must go on with the wetting of the bandage until you find the pulse getting slower and quiet, and the skin cool and soft. Do you understand me?"

"Yis, me swate leddy, I'm afther thinkin' I do. An' will ye jest be showin' me agin' how ye do it."

Mrs. Camp repeated the process, the boy showing evident gratification under her gentle manipulations and cool hand. "Try to avoid wetting the bed," she admonished; "and if you had something—an old comfortable, say—to put under him while bathing him, it would be better, of course, for after having cooled his blood and brought down the pulse to what is more like the natural heat, you could take it out, and the bed then would have escaped any wetting. The air in this room is not good for him. Let me show you how to introduce some from the outside without making a draft which might be injurious." Then going to a window, Mrs. Camp pushed up the bottom sash until its lower edge just escaped the strip which bound the part of the sill on which it rested when down. This slight elevation, however, made an open lap of nearly two inches be-

tween the upper and lower sashes, through which a current of air flowed into the room, as was perceptible enough when the hand was placed over the lap.

"Shure, an' ye're an angel, Missus Camp; the blissid Vargin herself must 'av' l'arned ye to docther, fur Mickey darlint is the betther fur what ye've jist done alreddy."

"I'll come up in an hour to see how the patient is getting along. Perhaps, meanwhile the physician from the Dispensary will come," and Mrs. Camp opened the door to return to her own apartments.

"Musha, an' I don't care if he niver comes. Belike you're more knowin' in the faver than thim gintlemin," exclaimed the grateful woman, following her co-tenant to the stair landing. "Thin they gives their perscipshuns; an' wid their orders to do this an' that, how's a poor ignorant body loike meself to know what to do at all at all."

Before sitting down to her intermitted work, Mrs. Camp took a lemon which she had in her little kitchen pantry, and made a bowl of lemonade, moderately sweet, and took it up-stairs to her little patient. Giving him a spoonful or two, which he swallowed with the zeal which a famished kitten shows in lapping a saucer of milk, she left the bowl in the charge of his mother, and again returned to her own room, followed by a volley of thanks and benedictions.

The Dispensary doctor didn't come that night, but he did the next morning and found the boy much improved. "Only a slight attack; a mere touch," he said; "no medicine required; give him some oatmeal gruel, my good woman, and nothing hearty, for his stomach is deranged and weak, and I think he'll be up again to-morrow."

"Shure, sir, I'm of that moind," said Mrs. Moriarty to him as he was taking his brisk departure after a two-minute inspection of the patient. "Hadn't it a been for the leddy on the third floor, who's the best docther, savin' yer presence, sir, me two eyes iver saw, the faver wud 'ave gon' hard wid me Mickey. But it's thankful I am for yer comin' an' tellin' me sich good news, an' I'll jist do as ye say 'bout the gruel."

H. S. D.

(To be continued.)

HOW ENGLISH WOMEN SPEAK.

IN an article on English society which Mr. R. G. White recently contributed to the *Galaxy*, several points are illustrated in which the author draws a line of comparison between the ladies of England and of America. We quote a few paragraphs which are descriptive of the mannerism in voice and speech of the English women, and at the same time are very suggestive of the organic differences in mental constitution of the nations mentioned:

"The voices and the speech of English women of all classes are, with few exceptions, pleasant to the ear—soft and clear; their words are well articulated, but not precisely pronounced. They speak without much emphasis, yet not monotonously, but with gentle modulation. Their speech is, therefore, very easily understood — much more so than that of persons who speak louder and with stronger emphasis. You rarely or never are obliged to ask an English woman to repeat what she has said because you have failed to catch her words.

"This soft, yet crisp and clear and easily-flowing speech, is, as I have said, common to the whole sex there. I was reminded of this when, one morning, at a great house, a country seat, I lingered with my hostess at the breakfast-table, after all the rest of the family had risen. She touched a bell, and a maid, an upper servant, answered the summons. No servants, by the way, wait at breakfast there, even in great houses. After you are once started, and the tea is made, you are left alone, to wait upon yourselves—a fashion full of comfort, making breakfast the most sociable meal of the day. When the maid appeared, the lady spoke at once, and the servant stopped at the door and replied, and there was a little dialogue about some household matter. The young woman's answers were little more than 'Yes, my lady,' and 'No, my lady,' but I was

charmed by them—more so than I have ever been by a lecture or recitation from the lips of one of the sex. She spoke in a subdued tone; but every syllable was distinct, although she was at the further end of a large dining-room. Her mistress' voice was no less clear, and sweet, and charming, and as they talked, in their low, even tones, with perfect ease and understanding at this distance, the whole of the great room resounded sweetly with this spoken music.

"When English is spoken in this way by a woman of superior breeding and intelligence there is, of course, an added charm, and it is then the most delightful speech that I ever heard, or can imagine. Compared with it German becomes hideous and ridiculous, French mean and snappish, Spanish too weak and open-mouthed, and even Italian, noble and sweet as it is, seems to lack a certain firmness and crispness, and to be without a homely charm that it may not lack to those whose mother-tongue is bastard Latin.

"One reason of this beauty of the speech of English women is doubtless in the voice itself. An English woman's voice is soft, but it is not weak. It is notably firm, clear, and vibrating. It is neither guttural nor nasal. While it soothes the ear, it compels attention. Like the tone of a fine old Cremona violin, its softest vibrations make themselves heard and understood when mere noise makes only confusion. Such voices are not entirely lacking among women in America; but, alas! how few of the fortunate possessors of such voices here use them worthily! For the other element of the beauty of the English woman's speech is in her utterance. 'Her voice is ever soft, gentle, and low: an excellent thing in woman.' Shakespeare knew the truth in this, as in so many other things. One of the very few points on which we may be sure of his personal preferences is that he disliked high voices and sharp speech in women. Singular man! I fear that his ears would suffer here. The English woman's voice is strong as well as sweet, but her speech is low. She rarely raises her voice. I do not remember having ever heard an English woman try to compel attention in that way; but I have heard French and Spanish and Italian women, ladies of unquestionable position and breeding, almost scream, and that, too, in society. Nor does the English woman use much emphasis. Her manner of speech is calm, although without any suggestion of dignity, and her inflections, which rise often, although they are full of meaning, are gentle. I remarked this difference in her speech of itself, but much more when I heard again the speech of my own countrywomen. I had not been in their company five minutes—not one—when I was pierced through from ear to ear. They seemed to me to be talking in italics, to be emphasizing every word, as if they would thrust it into my ears, whether I would or not. They seemed to scream at me. They did scream. I am sure that to their emphatic and almost fierce utterance is due, in a very great measure, the inferior charm of their speech when compared with that of their sisters who have remained in the 'old home.' If they would be a little more gentle, a little less self-asserting, a little less determined, a little more persuasive in their utterance, as well as in their manner, I am sure that, with their other advantages, they need fear no rivalry in womanly charm, even with the truly feminine, sensible, soft-mannered, sweet-voiced women of England."

TRY HIM ONCE MORE.

His case looks bad, I own, sir, very bad;
But let's try hard and save, not crush the lad;
He feels his guilt, e'en to the heart's deep core.
Try him once more.

Deal with him, sir, this tender, erring one,
As you would have another serve your son;
Youth is impatient—'tis the first offense;
Send him not hence!

If you forgive him now, and hide his shame,
'Twill fire his heart, perhaps, to earn a name,
And show his gratitude as ne'er before.
Try him once more!

He seems a likely lad—his eye is bright,
His limbs are lithe and pleasant to the sight;
Let him go on, sir, still in your employ;
Pardon the boy!

Give him good counsel, in a gentle way;
Tell him the story of your boyhood's day,
Recount your victories and temptations o'er;
Try him once more!

A prison cell would never better things,
For self-respect and hope might then take wings.
You say yourself it is his first offense;
Send him not hence!

As years pass by, and he becomes a man,
Guided, it may be, by your own wise plan,
These words may greet you at life's common goal:
"You've saved a soul."

POOR TOM--A PHOTOGRAPH.

WHAT a restless, eager-eyed, uncomfortable mortal this was! and how naturally his friends saddled him with that unfortunate epithet, "Poor Tom!" They used it oftenest, too, when his schemes were the grandest and his hopes highest on the wing.

"Poor Tom is making his fortune again;" "Poor Tom has hit it this time," they would say with such gentle pleasantry as poor Tom himself could scarcely have resented. No one was ever hard on him. He was spoken of, at the worst, with a sort of indulgent pity. It is true that he did "hit it" sometimes, and gloriously; but those who knew his history thought it might have been better had he missed it always, for his good luck only served to set new snares and dig new pitfalls for his unwary feet.

Success and Fortune were his watchwords, and never was man so persuaded that the world was his oyster. He was an inventor—not because he delighted in mechanics, but because by this door men have entered into wealth. Conceits that another and saner man would have blown away with the breath of a laugh, entered into his brain, and came forth physical marvels. It is said, by those who should know, that some of these inventions found their way to the shelves of the Patent Office. Certain it is that they have never been heard of elsewhere.

Poor Tom was a merchant also—not for love of traffic, but because there have been merchant-princes; and debt and disaster ended that phase. He was an editor—a zealous, prejudiced, partisan, sledge-hammer, one-ideaed sort of an editor, and might have lived and died triumphant in that career, but—we know the fable of the dog who dropped the substance for the shadow—he saw something more brilliant, more enticing, this poor dog of a man, and let meat and fame go down the stream. Failure never daunted him, for the new prospect was ever opening before the last closed. He learned nothing by experience. His Hope ever lighted up fresh vistas. The past was to him a dull and barren book. Only on the pages of the future spread those pictures in which his fancy reveled. It was nothing to him that he carried others with him to his ruin. Mother, sisters, wife, children, too-confiding friends—one and all were to be enriched by his dawning fortunes, and live with him in a heaven of prosperity thenceforth forever.

Then, too, there was self-esteem, and his belief in himself extended to every affair of life. Nothing was too difficult for him to undertake; nothing could fall short of his anticipations. His wishes were facts accomplished. An affectionate disposition had poor Tom, especially where the gentler sex was concerned. In his early days he loved every pretty girl he met, and, indeed, he never changed much in that respect, only that latterly he called his affection fatherly. Young or old, he never suffered the sorrows of concealment. His vows and promises were poured like water, and the habit got Tom into serious trouble more than once. Another man in such predicaments would have been called a scoundrel, but he was only following the impulse of organization. At length one woman avenged the rest. Tom's first matrimonial venture was a speculation not to be ignored or laid upon the shelf, and it was pretty well known that the wife who had won her husband by virtue of superior tenacity was a perpetual thorn in his side.

Tom's disposition, however, was hard on wives. It wore out two more after this first, and then Tom began to wear out himself—not that he was in the least aware of the fact. Rheumatism and all the messengers of old age warned him in vain, and death at last took him by surprise. He

could not believe that he must go before he had brought his last new scheme to a triumphant close.

He was a sanguine man—poor Tom! Had he been a sanguinary one he could scarcely have been more of an enemy to all connected with him. His life was a long, hot, wearing, turbulent fever, and now "poor Tom's a'cold."

HARRIET IRVING.

"FOLLOW THOU ME."

A DESERT, a shadeless desert;
Oh, wildly the storm doth sweep!
And I bury my unprotected head
In the pitiless sand and weep.

The wild winds sweep around me,
Moaning, in hopeless song:
"'Tis nothing but sandy desert
Forever and ever on.

"No shady land of peace
Will gladden your heavy eye.
Oh, give the hopeless journey o'er,
Rise not—lie here and die."

But a ridge o'er the sandy desert—
A *track*, o'er the dusty plain,
Sends hope to my fainting heart,
And I start on my journey again—

For I know that One before me
Hath travelled the desert o'er;
Thank God! for that print in the giving sand,
Where a foot hath trod before!

MRS. ELIZABETH THOMPSON.

THIS lady has the indications of strong vitality and excellent health; her breathing power, and circulatory and digestive functions appear harmonious, and each equal to the production of good results, for the health of body and mind. There is also a large brain, and it is well developed in the three great centers, viz., the intellectual, the moral, and the social. The selfish realm is not so strongly marked; the side-head not so fully developed as might be desirable. We think that there should be more of the love of gain, a stronger element of self hood in respect to finance and the possession of property. She is inclined to think for others and to live for them, not only physically and mentally, but financially. She bears the burdens of other people upon her pocket as well as upon her heart. She has not quite enough Destructiveness to modify her strong Benevolence, and enable her always to do justly by those who deserve severity. She is apt to compromise toward beneficence. When justice demands thoroughness and executiveness without clemency she sometimes fails to meet the issue.

She has a tendency to be intellectually rather than physically pugnacious. She would, in training children, preach a good deal of that which is just and proper, and might threaten to punish in cases of impropriety, but she would not incline to apply severe punishment. Yet delinquency on the part of those who owe service or obligation is looked upon by her with no lenient spirit. She has a feeling that wrong is very wrong, that injustice is thoroughly unjust, but she mingles mercy with justice in such a way that the delinquent generally gets off without suffering.

She has firmness enough to continue, to persevere, and to hold out in her enterprises. She has large Hope, and looks for the good time coming, and is able to encourage those who feel ready to perish, who are despondent, who lack cheer and good expectation. She brings sunshine to such, and opens a vista of good things to come. She has faith in the good time coming, and in that

which is superior to the joys and remunerations of earth; and though there are few persons who enjoy the present life as well, or who affiliate with more sympathy and pleasure with friends and society and all that makes life pleasant and desirable; yet she has a thought that there is something



better than three meals a day, something better than all we know or appreciate here.

Her Cautiousness is exercised largely in behalf of others. She is always watchful for other people, and is very apt to be giving admonitions of care and solicitude; but does not borrow trouble much herself. If she should expect to go away two weeks hence, she would begin to lay out things which are to be wanted, but would do her packing up in the last two hours she had at home. Her caution gives her the forelooking tendency to provide for that which is coming, and thus she gets preparation made to get away, and never leaves anything out of the question that will be desired. If she were a housekeeper, sick or well, she would know where everything was in the house, and where it could be found. She could manage business, but she has not quite enough fiscal wisdom to manage business, on what are termed business principles. She does not like to think people are dis-

honest and treat them as if they were rogues, and therefore she is sometimes compelled to suffer wrong rather than do what to her would seem to wrong others.

She has talent for literature, and if she were educated for writing or speaking, she would succeed well on the platform, on the stage, or in the editorial chair. She is a natural teacher; can communicate what she knows in such a manner as to make it understood; and people, if she wishes to speak, are willing to hear what she has to say; and if they do not quite believe it, they will treat it with becoming respect.

She reads character well, and generally knows how to adapt herself to others, and rarely makes a mistake in estimating strangers, unless it is to think they are more honest and more just than they are; but the general outline of their character she will recognize at a glance.

Obituaries are unsatisfactory. They merely serve to awaken us to a grieving sense of our loss; to a knowledge of the removal of some person whose characteristics or mode of life might have served us with an unending fund of benevolence, entertainment, or worthy example had we but known of his or her existence. Contemporary notices of persons of distinction are of frequent occurrence in the ordinary literature of the day. But it may be said that trustworthy reflections of the career of a living person who claims the respect of the community are not frequently published, so that society is to a large extent kept in ignorance of many of the odd and original characters which surround them on every side. Most of those whose character, culture, and accomplishments have rendered them worthy of public consideration are difficult to approach, so that the would-be interviewer or reporter can not if he would make use of them in his off-hand liberal manner. One of these is the lady whose portrait is given in this number, and of whom this sketch is written.

Mrs. Elizabeth Thompson is the great-granddaughter of the brave Hannah Dustan, and a relation on the maternal side of Pocahontas, the Indian Princess, whose place in early American history is prominently interesting. Samuel Rowell, father of Mrs. Thompson, was the son of one of the seven children who fled with their father from that cottage in Haverhill, in the old Colony of Massachusetts, when attacked in 1697 by a band of Indians. It will be remembered that Mrs. Dustan, her infant, and Mary Neff were left to the barbarism of the savages. The subsequent heroism and marvelous escape of Hannah Dustan and Mary Neff, laden with the scalps of their ten persecutors, are a household tale, and familiar to every American school-boy.

The childhood of Elizabeth Rowell was passed in the wilds of Vermont, and from the earliest years of her life, she was distinguished for traits of sympathy and kindness. We are told that the suffering of an injured bird or animal called forth not a mere display of pity and grief, but a tempest of agony which was divided between the object and the subject of the misery. As years went on, this peculiar sympathy took on the range of devotedness to ministering to the wants of the needy. According to her ability, and much beyond it at times, have been her acts of benevolence both mental and material. Could they be collected they would fill volumes. Through her efforts students have been educated to posts of honor and trust, schools have been founded, colleges endowed, the weak and diseased provided with comfortable maintenance, the culprit removed from prison to a region where he could redeem the waste and shame of his former life, the desperate and oppressed reclaimed and held to the law of right and duty. In some cases she has gone so far as to take a poor victim of want or harsh treatment, who had thrown herself into the vortex of ruin, to her own house, and kept her there for weeks until proper employment had been obtained, and the girl or woman thus substantially assisted toward the recovery of her womanhood and a life of usefulness.

Two or three gentlemen now occupying

good positions in Boston society were, in their hour of distress, supplied by Mrs. Thompson with the very necessaries of life and given the assistance necessary to start them on again in the world. Here is another instance of her method or lack of method: Fifteen years or more ago she visited a brother-in-law residing in a Vermont village; while there she learned that there were no school advantages afforded the children of the place. Her brother's little flock participated in the need. At her own expense she supplied a teacher, not only paying her salary, but also her board for two years. She believes most earnestly in educating the masses of the people. She believes in the efficiency of the newspaper as an educational agent; therefore she supplies seventy-five or a hundred families with as many newspapers and periodicals yearly.

She has interested herself in behalf of the miserable and unfortunate, not because she was desirous of applause, but from the very nature and impulse of her organization. In some cases even those who have been helped by her and saved from starvation, have said of her, "That woman is insane on this matter of benevolence." By consulting the books of manufacturers, it has been ascertained that during our late war, thirty sewing-machines at least were presented by Mrs. Thompson to the widows of soldiers who found themselves suddenly called upon to support their families; not to mention the houses and suites of rooms which have been rented and comfortably furnished for the same purpose. It was through her marriage that the liberal means were obtained for carrying into practical effect her schemes of charitable doing. Mr. Thompson was a gentleman of liberal education and cultivated taste, and in the lady who became his wife he found an appreciative and devoted companion; not only appreciative as regards the moral and social obligations subsisting between herself and the community, but also in the way of intellectual improvement, and the study and reflection essential to it. It is said that Mr. Thompson's interest was awakened by seeing Miss Rowell perform a rather odd act of kindness. He occupied rooms in the Tremont House, Boston, opposite the building where Miss Rowell resided. She was then supporting herself by sewing. While at her window one day she saw a drunkard in the street who was struggling under embarrassing circumstances with his hat and a pair of dirty boots. He had dropped the boots, and in the effort to pick them up his hat had dropped off, and in the attempt to recover his hat he would drop one or both of the boots. Without a thought, she rushed down into the street and assisted the unfortunate man to get full possession of his property, and conducted him across the street. This incident of practical zeal for unfortunate humanity impressed the wealthy Thompson so favorably that he sought an introduction, and after a brief acquaintance married the young lady.

Before his death Mr. Thompson had devoted his estate, which was valued at over a million, to the establishment of a fund for the benefit of working women; the income, however, of this fund was to be at the disposition of Mrs. Thompson, who had advised this charitable measure, during her life. The will brought on a sharp, severe litigation on the part of certain relations of Mr. Thompson, who deemed themselves slighted or injured by his neglect in not making some provision in their behalf. However, Mrs. Thompson has continued to receive the income, and the final settlement of the contest will come after she has left this mortal scene.

In the great Boston conflagration, a considerable part of her property was destroyed. Shortly after the occurrence of that terrible calamity, her friends urged her to telegraph to her trustee, and ask him the extent of her losses. Instead of such an inquiry, the following message was dispatched: "Are my tenants suffering? If so, provide for them."

"There is only one woman in the world who can so far forget herself at such a time," exclaimed a well-known judge upon hearing of the telegram, "and that woman is Mrs. Elizabeth Thompson."

The International Woman's League, which has its representatives in many different parts of Europe and America, owes its

existence largely to the bounty of Mrs. Thompson.

A few years since, she gave much attention to the establishment of a free training-school in this city, and expended much money in the effort. She has also taken a deep interest in starting and furnishing free reading-rooms in many different places, associating them where she could with the district schools.

She has been something of a colonist. Six years or so ago she bought three thousand dollars worth of land at the foot of the Rocky Mountains, in the region known as Longmont, twenty miles from Denver. There she erected a large building for social and public purposes, and set on foot such other measures as would tend to attract the attention of settlers. People commenced to flow thither, and a little town soon nestled at the spot. Two years after, Mrs. Thompson visited the place, and found a library, bank, school-house, newspaper, and other evidences of progress had sprung up, and a population of about five hundred had accumulated there. It may be said that she sustained the Women's Free Medical College of this city for three years, contributing five thousand dollars toward its expenses. And many other institutions of prominence in this country which are doing excellent work in their several spheres can testify to her generous interest.

She has paid for the maintenance of whole families that have become reduced by stress of fortune or the hard times, until their heads were able to carry them again. In some instances she has taken the destitute husband, wife, and children into her own house, and fed and clothed them for months. One family, somewhat prominent in the educational lines in this city, was maintained for a year and a half at a cost of nearly two thousand dollars.

Her benevolent enterprises have cost Mrs. Thompson upward of half a million of dollars, but she appears to reckon nothing of the expense so long as some good proceeds from the use of her money. She has given upward of fifteen farms to persons whom she deemed worthy of such gifts.

At the present time this lady is devoting herself with much vigor to the solution of the labor troubles of the country. She aims at the organization of a Labor Society which shall promote industrious and frugal habits among the masses

She has little sympathy for charitable institutions *per se*, but believes most earnestly in affording employment to those who are able to work, and so helping them to provide for their own support.

The indiscriminate and promiscuous giving of society she thinks has gone far enough. And the country now labors under a burden of poverty and wretchedness which demands the attention of Government. And she intends to bring the matter to the notice of our national authorities, if it be possible.

As a general thing, instead of lavishing aid upon those enterprises which have been long established and are well-known, she has sought out and aided those original organizations which in this country have found but little appreciation and patronage. It is said that Mrs. Thompson, in spite of what would be deemed by most observers a benevolent mania, is not an enthusiast even in the direction of the liberality which she constantly manifests. She preserves the balance of her mind in the midst of constant solicitations and enticement to aid unworthy objects.

YOUTH, like everything else, must be cherished, not squandered; and if we waste it in frivolous dissipations, age will come before years. The faster we travel the sooner will we get to the end of our journey. Enjoy youth in every reasonable way whilst we have it, but always remember that every time you overdraw on it you are contracting a debt that must be repaid, with heavy interest, in the future. Retain youth as long as you can, neglecting nothing which will assist you in doing so, but scorning everything which is false or deceitful.

Department of Literature, Science, Education.

True philosophy is a revelation of the Divine will manifested in creation: it harmonizes with all truth, and can not with impunity be neglected.

HOME FROM COMMENCEMENT.

NOT only am I just home, but I am full of readings about Commencements; and I propose to jot down, for the PHRENOLOGICAL JOURNAL, a few things suggested to me by what I have so recently seen and read.

I. I will begin with the little matter of the word Commencement. It is really the close of the college year, and the time when the senior class graduates and leaves the college, yet it is called commencement. It is only the beginning of vacation. When we attempt to show some folks that a word in the Bible is not to be understood literally, they regard us as attempting to deceive them. Let them be instructed by the word named, that a word, used by learned and ignorant, may come to have a unique, a far-fetched, or even reversed signification.

II. Colleges, like everything else in modern life, are penetrated through and through with the influence of the press and of public sentiment. Exclusive and isolated institutions belong to the past. I do not mean to say that our universities are thoroughly modernized, but I do mean they are undergoing the process. I heard an oration, by a senior, on Physical Morality, and another on Conservation of Energy in Life and Mind. Such topics as Commerce and Civilization, the Scholar and the State, the Morals of Trade, the Progress of Chemistry, chosen by young gentlemen for graduating themes, show that our seats of learning are losing monastic isolation, and being flooded by the uprising waves of popular and general interests. The college is reflecting the outside world, and the world is seen directly from its windows.

These seats of learning have their papers, their societies, their discussions, boat-clubs, and the students smoke (poor business) as freely as other folks. It is very difficult for the Faculty to maintain anything the majority of the students object to. Liberty and democracy have entered the university. Man-worship is on the decline. Tradition has less and less authority. The elective system, which a phrenologist instinctively favors, is prevailing. The President of Harvard, I am told, advocates it. President Capen, of Tufts, in his last report, says:

"The range of electives, which was considerably enlarged last year, has been still further enlarged this year by the addition of chemistry in the Junior year, and of jurisprudence, chemistry, and physics in the Senior year. The more general recognition of the elective system in doing the work of the college is a forward step. It meets with approval in every quarter. The students like it because it not only enables them to pursue with especial profit studies to which they are attracted by inclination and capacity, but because it saves them from wasting their energies upon departments in which they can make no very marked progress. The quality of instruction is improved by breaking up the classes into small sections, and bringing the men directly and constantly under the influence of the instructor."

I listened to an oration, by an editor, before an Alumni Association, which was a graceful plea recommending a department in the course of study for designing, engraving, painting, sculpture, etc., his theme entitled "Æsthetics are a part of Education." It was highly approved. So the world moves. President Chadbourne has made the important admission that all men are not naturally fitted for a collegiate course

of study. Movement again. He might have also said that it is not the duty of every young man who has scholarly tendencies to crowd himself through four years of study. He may not have the health, or the means, and Providence may throw such cares upon him as morally forbid the "liberal education." Sacrifices are sometimes made to secure it which ought not to be made. Knowledge and culture are usually within legitimate reach of all who hunger for them, but graduation may not be. The expensiveness of modern life in general is reproduced within classic apartments. Twelve hundred dollars, I remember, would take a young man grandly through four years of study; now, it must be doubled. Most of the four hundred colleges in the United States are calling ingeniously and earnestly for bestowments, not, however, in the interest of indigent students — rather that there may be more professorships and additional facilities.

III. The study of Latin and Greek yet takes years of a liberal education. In a few years, those graduates who do not teach these languages will have forgotten them. Modern languages are now added to the curriculum, and it is otherwise enlarged. To try and commit to memory all the declensions, conjugations, poetic feet, irregular verbs, and so on, of dead tongues, is a vain and pretentious affair. No themes at the present hour need elucidation more than these: Man is Finite, and Life is Brief. Were a teacher to insist that a class in geography should commit to memory the exact boundary of every town on earth, parents could see the absurdity of the injunction. They do not see the absurdity of some other things just as chimerical. So children and older pupils have to endure tasks that will astonish the teachers of a more tender and philosophic generation yet to be. An able editor, writing of women's colleges, says, when speaking of the last year of Smith College, "Health and happiness prevailed." The same paper had previously reported, "The second year has abundantly confirmed the experience of the first, that American young women are capable of pursuing the highest course of study without impairing their health." I can not speak from observation of the members of this college, but I made such quotations recently, to a company of ladies, convened from different institutions, and they responded that, as a rule, lady students were neither robust nor happy. They ought to be, but before they will be, health must be more venerated than it is now. You may see a whole class of young men graduate, without beholding more than one or two specimens of perfect physical integrity, or not even one such. When we appreciate the physical as the Greeks did, then, and not till then, shall we vie with them in beauty and stamina. When a young man becomes a member of a base-ball or boat club, it is far from certain that he will thus add to his material force or longevity; such an important matter as our material well-being is not to be fully insured only on a very comprehensive and well-balanced plan.

IV. That intercommunication between the schools of the country and the world outside, complete almost, should be even further perfected. It was a sad thing for our land, to leave the fate of the nation in the hands of politicians, with all their selfishness, pride, and temper. The legislation of the people must outrun Congress. The correspondence now going on between the North and the South is more healing than any Act of Congress could be. So the general wisdom and progress must shine in at every door and window where the young and younger are taught. Educators even are not to be left uninspected. It is too much thought that going to college is going to another and higher world. We are all in one round car. Those professors who publish to the world the lectures delivered to students are to be thanked on the ground of comity and democracy alone. It seems very apposite that I should find in the PHRENOLOGICAL JOURNAL, "Letters to a Son in College." Whoever *Pater Confidens* may be, it is a wise son who heeds his parental sayings. Next, let us have, letters from the son. In other words, students should sometimes write for our publications, as well as edit papers pertaining to college life. The latter are a new and promising feature.

V. Any one who has this summer read and heard much of baccalaureate sermons, alumni addresses, graduating exercises, etc., and pondered upon them, I think will agree with me, that all speakers are beginning to feel that they have a world for an audience, instead of a portion of it; that sense and usefulness have been deeply considered, and that no literary season before ever brought forth so much adapted to and worthy of general circulation. The press has shown its popular instinct in largely serving the public with these popularized utterances. Let the assimilations go on.

VI. The graduate whose English oration was on physical morality—a fine fellow too—gave the only fling at phrenology I have detected. His argument had necessarily carried him on to that territory. He virtually apologized by quoting Dr. O. W. Holmes' witticism about the rivet heads of the boiler. When the mirth is over, no fact is left, as the graduate can easily ascertain. By the way, I have recently read in a quarterly for July, current month, an able sketch of Dr. Whittemore, by Dr. E. G. Brooks, of Philadelphia, in which the reviewer, on pages 286, 287, distinctly refers to phrenology in explaining Mr. Whittemore's peculiarities; quotes, too, the remark of a phrenologist, and does this without apology. From personal observation, I judge the size of the base of the brain in Thomas Whittemore's case, though large, is rather overstated; the courage and manliness of Dr. Brooks appear in a noble light all the same, himself a cautious and devout theologian. L. H.

Franklin County, Mass.

THE STEREOSCOPE AND ITS PICTURES.

MAN possesses, besides reason and skillfulness, imitation. He is not satisfied with enjoying the works of nature only, and making use of them for purposes of profit; he endeavors also to copy, to imitate the form of whatever he sees; and this is done either by producing the object in a true copy, or in attempting to obtain an ideal—a perfected form of the natural. The painter selects a certain point, and copies the objects as they present themselves to his view from that point, regarding only height and breadth of the surface. In this way he gives us, on a small scale, a large piece of nature; but however he may try to supply depth by a correct application of perspective and a skillful distribution of light and shade, the viewer, assisted by his faculties of combination, will only be able to imagine the real effect of the picture, and will never feel this effect in the same manner as he does in viewing nature herself. This does not depend upon variations of the point of view, but upon the construction of the organs of sight and perception, which enable one to distinguish flatness from solidity

One eye, to be sure, is able, through the cultivation of the faculty of Accommodation, to judge if things lie in one plane or not, and to estimate, involuntarily, the relation of distance of the object from its own point of view.

But how much easier and better are we enabled to judge of nature with two eyes, each forming its own picture of the object, and the axis of each picture having such a direction that its light falls on a corresponding point of the retina, and so both unite in a common image. The least deviation of the look from one point to another must change the direction of the axes of the eyes, and, therefore, we can never at the same time observe clearly more than one point of an object.

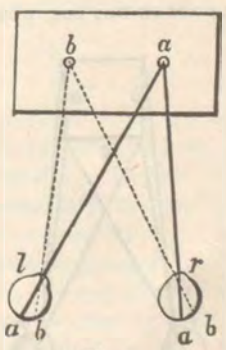


Fig. 1.

If we hold a piece of paper directly before

us and observe thereon two marked points, as *a* and *b* (fig. 1), the image of the point *a*, on the retina of the left eye (*l*), will cover the image of the same point on the retina of the right eye (*r*); the point *b* will appear in the left eye in a certain distance aside in-

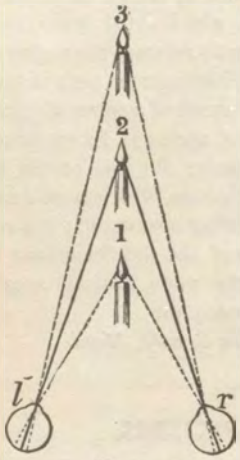


Fig. 2.

distinctly, and is also visible to the right eye in the same direction and distance from *a*, therefore in the corresponding place.

If we take three candle-lights and put them in a straight row, so that the connecting line, when extended, would fall half-way between the eyes, then one eye, placed at a point on this line, would see only

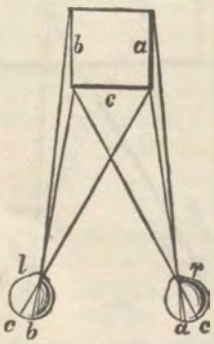


Fig. 3.

one light, because the light number 1 covers the lights 2 and 3 (fig. 2). Now, in reality, as they are placed, both eyes look sideways on the three lights, and each eye sees distinctly all the three lights; but each has a different view of them, while only the picture of one and the same light is congruous on the retina.

On a single object, as in fig. 3, the same appearance is observed; its image is not the same in both eyes, but when both eyes see the front, *c*, the right eye sees, besides, the right side of the object for itself, while the left eye sees, in the same way, the left side. Thus, by means of both eyes, seeing two pictures of the same object, is chiefly the reason that objects appear to have depth as well as height and breadth, and are not flat, but solid.

Now, therefore, how can we produce a most deceiving portrait of things as they present themselves in nature? How could we combine, with the advantages of paintings, the only thing in which they are defective, the plastic effect? Evidently, if we

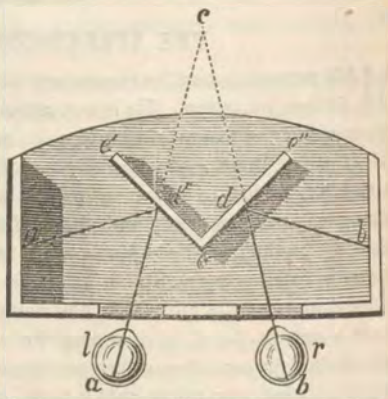


Fig. 4.

could produce two views of the same object, as they are perceived by each of the eyes, and if we could bring these two views upon the corresponding point of the retina, they would produce, in combination, the same plastic impression on the visual nerve as nature does.

The English physicist, Wheatstone, was the first who endeavored to confirm this conclusion by experiment. He prepared, from a simple body, two different views corresponding with those obtained by the right and the left eye, and placed them before the right and left side-wall of an apparatus (*a* and *b* in fig. 4); in the back part or center of this apparatus were two looking-glasses set at right angles (*e*, *e'*, *e''*) to each

other, which, according to the laws of reflection, will throw the image of the objects *a* and *b* to corresponding points in the right and left eyes (*r*, *l*). The experiment proved a success; the two views were united and produced a striking effect, and the images formed seemed to be one situated in a common point *c*.

Wheatstone's apparatus, known as the "Wheatstone Stereoscope," exists only in physical manuals. Sir David Brewster's invention, the Stereoscope, as it is known to the world, has taken its place. Through the two glasses (*o*, *o*) in the box represented in fig. 5, which is usually about seven inches long, half as wide, and two inches deep, the eyes look on two pictures, *a* and *b*; a partition wall through the middle of the box provides that each eye shall see only its corresponding picture. The eye *a* will see *a*, and the eye *b* will see *b*. The inner walls of the box are blackened to offset all disturbing secondary lights. In order to facilitate the covering of the pictures to the eyes, the glasses *o*, *o* are cut out of the two halves of a double convex lens, and placed with the sharp ends toward each other, so that the pictures *a* and *b* will be transmitted to the eye, not in a straight, but in a deviated line. The eye axes will thereby be turned more toward each other; the picture will fall on the corresponding points of the retina, and one thinks he sees the real object in the line *c*, *c*, in which the eye axes cross each other. The effect is so much

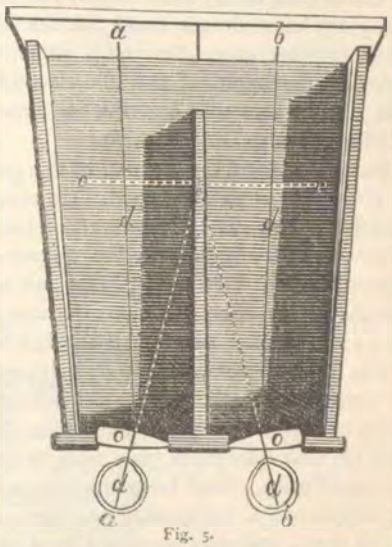


Fig. 5.

more surprising as the supposed picture appears nearer, and respectively larger since the glasses, *o*, *o*, as parts of a double convex lens, produce a magnifying effect.

WILL DOERING.

HOPE AND DESIRE.

"What's i' the air?
Some subtle spirit runs through all my veins;
Hope seems to ride this morning on the wind,
And joy outshines the sun."

PHILOSOPHERS in their examination and classification of the sensibilities have sometimes confounded Hope with Desire, the wish with the expectation, the dreamy longing with the bright anticipation, but they have thus fallen into a grievous error, and caused much confusion in the mind of the student in mental science. Both relating to something future, yet they are generically similar, and specifically dissimilar, like sisters who resemble different parents, or the bud and blossom on one vine mingled and intertwined among the same leaves. Desire has always reference to something unattained, which it believes to be agreeable; but can only lay upon it the indistinct claim of possibility. There is nothing to insure its possession but the longing for it, no bright star of promise between it and us, no faithful harbinger lingering over it. When we come to Hope, however, there is no longer only the possibility, but the probability, to call the coveted object our own. The emotion of Hope is ardent or otherwise, in proportion as we deem the object important, and in accordance with our love for it. We as constantly hope for pleasure as for the continuation of life, and yet we often passively wait for the former while we direct all our efforts to the attainment of the latter. The prosperity and freedom of our country simultaneously grow out of our love for it,

and yet we may trust the one to our fellow-creatures, while we sacrifice life and all that we hold most dear for the other.

Phrenologists give Hope a place by the side of Veneration, and were the grouping of the organs of the brain merely fanciful, surely the most devout could not select a purer, brighter atmosphere with which to surround the organ of spiritual devotion. The discovery of this organ in its cranial relation is due to Dr. Spurzheim.

Dr. Gall marked the function of this part of the brain as unascertained. He maintained that Hope is the attribute of every faculty, but falls a prey to the erroneous supposition that Desire and Hope are synonymous. Probably the more we have to hope for in life, the more happiness lies before us. The laborer, toiling from early morn till eventide "in the sweat of his face," seems to realize more peace and satisfaction from life than after years have brought him ease and luxury. Hard labor has ever been considered one of the greatest punishments of this world, and yet I wonder if the Creator's curse upon the first disobedient man was not a greater gift than any earthly benefactor can bestow upon those whom He would bless. It has long been a disputed question whether there is more pleasure in pursuit than in possession. If we acknowledge with the majority that the pursuit is the more pleasurable, is it not because after possession Hope has hid her bright, glittering face from us? Earthly possessions always come burdened with some trials and anxieties; and when there is no longer necessity to hope for what we deem will make us happy, we grow fearful lest our wealth be snatched from us, and thus our mind is agitated by the fear and dread of our previous state, when before it was cheered by the hope and desire of our present condition. God never smiled more graciously upon man than when He lighted the innermost chambers of his mind with the beacon-light of Hope and set it upon the watch-tower to throw its beams upon the workmen beneath. In early childhood it is the precursor of every good we believe the world to contain, and thus it is that this period of life is ever marked by joyousness, elasticity, and mirth, whether it be passed in hut or palace, in affluence or penury. In budding manhood and womanhood Hope builds great and dazzling air-castles, and holds forth fairest promises, strewing the winding path of life with gay flowers and graceful foliage; and when man has passed the flood-tide, descending into the shades of gathering twilight, Hope walks by his side and points beyond the misty veil that rises in the distance to new and deeper joys. Hope is universal and refulgent as the sunbeam, throwing its wondrous light about us when we court its presence, and haunting us with its brightness when we have secluded ourselves amid the shadows. In joy it glows and flashes; in peace it beautifully smiles; in despondency it gives a lustre to the dewy eye; in youth it laughs and sparkles; and in old age it patiently looks up to the Source of all light and love. We can not too fondly cherish this blessed boon that is strength to the weak, peace to the heavy laden, comfort to the afflicted, and life to the dying.

"Angel of life, thy glittering wings explore
Earth's loveliest bounds and ocean's widest shore."

G. A.

IN THE CHILDREN'S CAUSE.—Evil temper is more often caused by circumstances than a natural disposition; sometimes the cause may be a physical one, and the fretful child need a physician more than a rod. It is not always a lamentable sight to behold a child show temper; the very passion exhibits qualities extremely valuable; thus a child of active temperament, of extreme sensitiveness and earnest purpose is more likely to encounter opposition than a child of a dull, passive nature, and if his disposition be frank and open, void of all concealment, he will show his discomfiture by a burst of anger. Punishment only increases the trouble in this case, and probably changes the outward exhibition of wrath to a fit of sulks. Let the mother keep her own face cheerful, kind, and sympathetic, and the cloud will pass over sooner than if received with scolding and frowns. If possible, strive to keep away the stumbling-blocks in the children's path. Make them happy: they can not be too much so. Happiness is the sunshine in which all sweet attributes will grow. Don't be afraid of their being spoiled by it. Let us smooth the rough road for our little ones' feet. SARA KEABLES HUNT.

THOMAS COOK,

THE TRAVELER'S FRIEND.

AMONG the men of England who are worthy the respect of the American people, and of the people of any country, Mr. Thomas Cook should be given a prominent place. Aside from his admirable personal character, he is entitled to special consideration on account of the excellent work which he has done for the benefit, not only of communities, but also of nations. Devoting himself early in life to what has been gradually developed into a grand universal system—the providing of facilities for cheap and comfortable travel—he has acted the part of an international benefactor, assisting the peoples of different provinces and nations to learn of each other by personal observation; helping the invalid to reach the land where sunny skies and invigorating breezes promise the boon of health; speeding the poor emigrant on his way to the new country with trusty information and counsel; saving money and time to the man of business; giving safe conduct to the woman whom choice or necessity compels to cross seas or lands and mingle in strange scenes, and by whatever means which experience and practical judg-



ment could suggest to render the way of voyager and traveler easy and inexpensive.

A personal acquaintance with Mr. Cook of several years' standing has impressed us, just as all who have the privilege of his genial friendship have been impressed, that he possesses those warm, frank, considerate qualities of head and heart which must always win their way. And knowing him, we do not wonder at his great success in the conduct of a business as difficult and complex in detail as it is unique. Having at hand an estimate of his character prepared by Prof. L. N. Fowler, in which are woven a few facts of Mr. Cook's past life, we present it here as an exemplification of the close relation subsisting between the phrenological indications of the cranium and the expression of character in life.

"Mr. Cook has an organization that has enabled him to sustain himself in his peculiar line of life that he has originated, systematized, and perfected, till he has made a journey around the world as simple as a journey of a dozen miles was thirty-five years ago, before he commenced his labors.

"Mr. Cook's physical structure is symmetrical, compact, and powerful. He is of medium height, has a large head, neck, shoulders, and chest. He has good digestive powers, an abundance of arterial blood, a free and healthy circulation, a strong frame, and a vigorous muscular system, which was strengthened in the early part of his life by his taking much muscular exercise.

"Having a strong constitution as a foundation, his large brain has been well-sustained and nourished, so that his arduous and complicated brain-labor has not injured and exhausted his life-forces. His head indicates that he has no eccentricities, extravagant excesses, and deficiencies, but that he is characterized by evenness and uniformity of disposition. He derived his physical structure and planning intellect from his father, but inherited his moral and prudential qualities from his mother, so that he has both the masculine and feminine elements strongly blended.

"His energy of mind comes more from his strong constitution and excellent health, than from Destructiveness, for this faculty is not large, and when not stimulated by outside difficulties, he his mild and gentle; but opposition arouses his large Combativeness, and he then takes hold of his task with a zest, and is the last one to surrender. He is more courageous, however, in defending a principle than himself, and he has more moral than physical courage. He is never the aggressor, is cautious, restrained, and reserved in his normal state of mind; but when before an audience defending a principle he is self-possessed. In the field of action and in times of danger he is equal to the situation and to the emergency. In debate he expresses himself fully, freely, and forcibly. He has the talent to create and do almost any amount of business, but he is so intent on accomplishing his object and finishing his task, that he pays less attention to the making and hoarding of money than most men, and has accumulated because it was necessary to do so to carry out his purposes. His Acquisitiveness is not naturally large or active, and he has never been absorbed in money-making as such. The one ruling passion of his mind in his business is to create facilities, so that people can travel and see the world in which they live.

"He has none of the miserly spirit, but would prefer to let the whole world have the benefit of his philanthropic schemes, rather than confine his operations to a select few. He commenced working for the happiness of others as a missionary, rather than as a business man, to amass property. Experience alone has taught him to look after the pence as well as the pound. He has not a great amount of self-love, but a high degree of moral dignity and independence. His regard for fashion and display is not great, but he is very sensitive about his character, and can not bear imputations with reference to his motives. Conscientiousness is one of his largest organs, disposing him to adhere with great tenacity to what he thinks is right. He has the power to regulate his conduct, to live a uniform life under all circumstances, and while he can adapt himself to different people in all parts of the world, he takes his Conscientiousness with him, and allows that faculty to control his conduct.

"Firmness is very strongly developed. He

sometimes hesitates much before he decides which course he will pursue, yet when he has decided, and his principles are involved, he is unyielding, and perseveres till he has accomplished his purpose. The faculties of his moral brain are strongly represented, elevating his whole character, and inclining him to lead a moral and religious life. His large Benevolence, combined with his strong social nature, gave him his first impulse to start his present calling; for his first efforts were to carry temperance and Sabbath-school children and teachers to a neighboring town, and then he carried some poor working people who could not pay the regular fare, one hundred miles for one shilling each. This was for their benefit, without his deriving any pecuniary aid out of the scheme. The money that has been made in subsequent years from his numerous trips, has been the result of the combination of talent brought to bear rather than from his own greed.

"His moral brain, joined to his Self-esteem, disposes him to assume responsibilities that may promote the well-being and happiness of the masses who are unable of themselves to accomplish the same ends, and in this way he has done a great amount of gratuitous work, has encouraged many missionaries and schools, and has collected libraries for soldiers and others who had a thirst for knowledge, but had not the books to read and study, and he has helped many young men to secure situations of trust and honor. He works as hard when he receives no remuneration, as when he expects ample returns. I have traveled with him nearly ten thousand miles, and have seen him placed in many trying circumstances, but have always found him equal to the occasion.

"His reasoning powers are the strongest of his intellectual faculties, and they give him the ability and disposition to think, plan, reason, argue, originate, lay out work, and understand complicated questions. He thinks as a pleasure, but he observes as a necessity. His mind is very vigorous, and he identifies what he sees, for he looks with a definite purpose, and his memory is thereby intensified, but he remembers what he understands better than what he observes.

"If his perceptive faculties were larger, they would more easily introduce him to the external world, and enable him to gather more readily the special knowledge he may require. If he fail, it is in the details. He grasps the broad principles easily, but can not see all the minor points so readily. Great experience has enabled him to counteract this natural defect somewhat. His head is broad in the temples, and in the upper region of the sidehead. He is ingenious in many ways, not only in a mechanical direction, but in devising ways and means, and in extricating himself from a difficult situation. His ingenuity, joined to his large Hope and strong imagination, enables him to amplify, magnify, and embellish his ideas. He always presents the bright side of a subject, is happy, buoyant, and genial in his feelings.

"His Language is large, which shows to a good advantage when he is before an audience and excited by his subject, but under ordinary circumstances he his much more given to thinking than to talking. He has traveled in many foreign countries and around the world, and has been obliged to transact business in many different languages without being able to speak any but his own native tongue. His ingenuity has served him in this emergency, and he has adapted himself to circumstances that surrounded him with remarkable ease and pliability of manner."

Mr. Cook was born in Melborne, Derby County, England, in the month of November, 1808. He was a mere boy when his father died, and his mother, not being left in circumstances which enabled her to provide for the support of the family, he was compelled to find employment at ten years of age. He went into the service of a market gardener, and continued in that occupation till he was sixteen years old. Then he was apprenticed to the business of wood-turner and cabinet-maker. He was thus employed until he had reached his twentieth year. Home training had strengthened a natural disposition to religious and charitable work, and while a young man he would give a great deal of time and service in such directions; and, in fine, exhibited so much aptitude that he was engaged by a village missionary association,

connected with the Baptist church, of which he was a member, to go into the district of his native county as a tract-distributor and Bible-reader for the poor. He continued in the prosecution of this sort of religious work for four years, when the lack of support, on account of the weakness of the association which had engaged him, compelled him to return to the work-bench of his trade. For the next ten years of his life he devoted himself to this industry with all the energy of his nature.

Meantime, the temperance movement had commenced in England and Mr. Cook's sympathies became interested, and he warmly went into it, as an advocate of the reforms which it taught. While he was engaged in this way, he began that career of usefulness which has made his name famous by what might be termed an experiment. He made arrangements for a large party to go to a temperance meeting, some eleven miles from Leicester, the place of his residence; subsequently, he undertook the management of trips to Derbian neighborhoods. On one occasion, he created a great sensation by taking three thousand in one day. In 1845, he set on foot a series of excursions of considerable range, opening out the mountainous districts of North Wales to the appreciation of the English masses. In 1846 his arrangements were completed to Scotland, where, as fast as railroads were completed, and other arrangements organized, extensive systems of tours were planned. Subsequently he took into his plans the continent of Europe, perfecting plans by which Germany, France, Switzerland, and Italy could be visited at a moderate expense and in a satisfactory manner.

In connection with the great exhibitions of England in 1851, of Ireland in 1853, of France in 1855, and of London in 1862, he was actively engaged for the accommodation of the traveling public. Under his arrangement, 15,000 people visited Hyde Park in 1851. In 1862, he not only provided traveling arrangements, but also provided temporary homes for people in London. In this way he accommodated, under his own exclusive management, more than 12,000 persons. In 1866 we find him negotiating with the great ocean lines, and with the American railway companies, having in view the extension of his system of excursions and tours to and through the different parts of the United States and Canada.

His combinations penetrate not only into the remote regions of Asia, but may be said to surround the world. In 1872 he conducted a party which made a tour completely around the world. He has traveled from 25,000 to 30,000 miles every year, for upward of 35 years, and five millions of people have traveled with his tickets.

Mr. Cook has shown a deep interest in America and its institutions for many years, and probably no man in Great Britain sympathizes more with the political and social movements in progress here. Last year he showed a deep concern for the success of our Centennial Exposition, and as an evidence of his zeal, went to great personal expense in order to contribute to its attractiveness.

Mr. Fowler says of him: "Without having a fortune to scatter broadcast, he has been one of the greatest benefactors that England has produced in this century, and there are various reasons why he can take rank among the philanthropists of the day." Some of these reasons are embodied in the fact that through his enterprise as a planner of excursions and tours, "he has helped to wipe away the cobwebs of superstition and ignorance from the minds of thousands; has encouraged tolerance and brotherly love; has induced thousands of people to break up their monotonous habits and go forth to other lands, to get fresh air and fresh ideas, and thousands have been benefited physically, as well as mentally, in this way. He has taught Englishmen that there are other parts of the world worth visiting besides their own country, and enabled them to take broader views of humanity than would have been the case had they remained at home."

The gods bestow not equally on all
The gifts that men desire—the grace of form,
The mind, the eloquence. One man to sight
Is undistinguished, but on him the gods
Bestow the power of words.—HOMER.

INDIA--ANCIENT AND MODERN.

THE ancient religion of India, taught in the holy Vedas, by Manon, before it was corrupted by the Brahmin priesthood, admitted but One God—Him who exists by himself, who is in all, because all is in Him, the spirit alone can comprehend Him, He being without visible parts, eternal, the soul of all things, and whom none can comprehend. The mighty attributes of Deity, omnipresence and omnipotence, are ascribed to Him, also the creation of the earth from an infinite void, and its launching into space. The Hindoo theologians distinguished God in two situations—in the first He is Zeus, God *not* operating, not revealed—"Narayana, him who moveth upon the waters." In the second situation, Zeus becomes Brahma, God revealed and operating. According to this antique faith, matter is subject to the same laws of existence and decomposition as vegetables and animals; after a certain period of life comes the period of dissolution—everything decays, all returns to chaos; the harmony of worlds is at an end; earth, air, water, and light mix and become extinct. It is the Pralaya, the destruction of all that exists; but there is a germ, which purifies itself by repose till the day when Brahma comes to develop it, to give it life, the creative power; and to produce the worlds which commence little by little to form, to grow, and to operate, followed by the same repose and the same regeneration. These doctrines lie at the basis of the modern theory of Evolution, now so generally accepted by scientists. Also in complete harmony with modern science this ancient theogony declares the period of action and reconstruction of worlds to correspond to the period of 4,320,000 human years. The Pralaya, or epoch of dissolution, is of equal length. The sacred books declare that the germ of matter is fecundated by Brahma himself; Nature develops the elements.

As the night of Brahma approached its end, before proceeding to create this world, according to the Vedas, the Lord resolved to people heaven with beings born of Himself and sharing His attributes. So the angels sprang from His *thought*, and hastened to arrange themselves about His throne. But scarcely had this happened when the *inferior* angels, who had been assigned the most distant heavens, rebelled, with Vasonki at their head. Being chased from heaven into hell, they were named "Rakchasos," the cursed, says the Baga-veda Gite. When Zeus unrevealed became Brahma, operating and creating, three persons revealed themselves in him the Trimourti—Brahma, Vishnu, and Siva—or the creating, the preserving, the transforming principle. Brahma formed man and woman out of the purest of himself. He named them Adima and Heva, and gave them for a home the island of Ceylon. Here for a while they were quite content, but at length the man grew restless and persuaded the timid Heva to explore the country with him outside their garden domains. When they reached the limits of the isle and beheld a beautiful unknown land looming up beyond a narrow sea, and which they might reach by a rocky isthmus path, Heva remonstrated against their going further, indeed wept and prayed, and pleaded the commands of her Lord; but snatching her up in his arms, Adima boldly set out on the narrow path, and as his foot touched the new country, their peaceful island home receded from their vision like a mirage. Adima gave himself up to agonies of despair, but Heva knelt and prayed, and God had mercy on them. Such is the Vedic rendering of our Bible account of the fall of man.

The Vedas also recount the history of the patriarch Adjigarta, offering up his only son; a legend agreeing in almost every particular with the Bible narrative of Abraham, the "father of the faithful."

The Vedas declare the souls of men to be emanations from the soul of Brahma. In the hour of the decomposition of the body, they are reabsorbed into the Divine Essence, and this reabsorption is called Nirwana. The Hindoos do not admit the eternity of punishment—with them the guilty, after expiating their crimes in hell, undergo several transformations, and re-enter the spirit-

ual nature of Brahma after being thus purified of their transgressions. The Hindoo religion teaches its votaries to propitiate an offended deity with offerings, by prayers, fastings, ablutions, bodily mortifications and mutilations, rich gifts to the priests, and pilgrimages to the sacred river Ganges, or other holy places. The Fakirs are a species of fanatics, who mutilate themselves horribly, supposing thus to please God.

The theology of the Vedas is the fertile *ovum* whence issued Zoroastrianism, Buddhism, and Mohammedanism. Though pure and simple in its inception, it has become a tissue of horrible and corrupt superstitions in the hands of the Brahminical priesthood, who ruthlessly degraded the people in order more effectually to rule them. It was the Brahmins who created the famed castes of India—themselves, greedy and aspiring priests, being always high, or *first* caste; exclusion from all caste being the severest penalty known to their laws. This system of caste, an iron despotism, which makes progress impossible while it exists, is clung to by the Hindoos as if it were an open sesame to Paradise. They humble themselves to their British *masters*, and submit to any exactions, but if the English Lord, possessed by a brief fit of philanthropy, attempts to disregard the strict laws of caste, to succor a Pariah, an *outcast*, to abolish the car of "Juggernaut," great is the outcry, maddening the mutiny. They are ready then to revolt, burn, kill, ravage, and fight to the death.

According to the account of a recent French traveler, nothing can exceed the horror of the self-tortures inflicted by the Fakirs, when this car of Juggernaut, containing the hideous image of the god Siva, makes its annual progress. To prostrate themselves in order to be passed over by the sixteen wheels of this car is the commonest form of torture. Another festival of monstrous superstition is the "Nag Punchmi," or feast of serpents at Bombay. The Hindoos worship the serpent as they do Siva, the destroyer, and at the season of the year when the cobras are most dangerous, they celebrate this festival, decking their houses with flowers, praying for deliverance from the bites of serpents, and offering rice and sugar in the temples, where one of the grand ceremonies is *feeding* the cobras with buffaloes' milk, of which they are very fond, by means of "Sapwallahs," or snake-charmers.

But though India is now steeped in superstition, though British masters crush her pride and humble her dignity in the dust, though sunk in apathy, servile and passive, yet India has a *past* grander, more ancient than any other land the sun shines on. Happily for modern thought all vestiges of her glorious achievements are not yet obliterated. She has still her manuscript, still her ruins, still her Sanskrit tongue. And savants say: "It (the Sanskrit) is a language more copious than the Latin, more perfect than the Greek, and more exquisitely refined than either;" also, that the Sanskrit is the parent stock from which came the Greek language as well as the Latin; and that ancient India is the *parent* of civilization. Instead of Egypt being the fountain of learning, Menes, her founder, obtained his lore and laws from the Institutes of Manon in India; hence the Justinian Code, the Pandects, the Code Napoleon, the Common Law of England. Pythagoras and Plato, the Samian Sage, and the Prophet of Mecca, all drew from this fountain.

An extract from the ancient books of some of the precepts of Chrisna, the Hindoo Incarnation of Vishnu, may give the reader some notion of the wisdom which pervaded the philosophy of the prehistoric era in which the Vedas were written:

"Men who have no self-command are not capable of fulfilling their duties.

"Pleasure and riches should be renounced when not approved by conscience.

"The wrongs we inflict upon our neighbors follow us like our shadows.

"The knowledge of man is but vanity; all his best actions are illusory when he knows not to ascribe them to God.

"Love of his fellow-creatures should be the ruling principle of the just man in all his works, for such weigh most in the celestial balance.

"He who is humble in heart and spirit, is loved of God; he has need of nothing more.

"As the body is strengthened by muscles, the soul is fortified by virtue.

"As the earth supports those who trample it under-foot, and rend its bosom with the plow, so should we *return good for evil.*

"Science is useless to a man without judgment, as a mirror to a blind man.

"If you frequent the society of the good, your example is useless; fear not to dwell amidst the wicked for their conversion.

"When we die, our riches remain behind; our relatives and our friends only follow us to the tomb; but our virtues and our vices, our good actions, and our faults follow us in the other life."

Chivalry had its origin in India, and the magnificence of fabulous wealth created perfect elysiums of sensual enjoyment. When those who now rule her as conquerors were a mere horde of savages, the luxurious and learned Hindoos dwelt in stately places, cultivated high art, and sought to solve, with subtle analysis, the highest problems of metaphysics and mathematics. And the moderns have yet to excel the grandeur of her architecture, the splendors of her material life, and the profundity of her intellectual researches.

A lethargy rests upon the descendants of this ancient people, deep as the sleep of exhaustion. Let us hope they will one day resume the energies that have fecundated the world, and prove their right to the title of "Children of the Sun and Moon."

VIRGINIA D. COVINGTON.

DOES THE END SANCTIFY THE MEANS?

A CONTEMPORARY gives us an account of the outcome of a great lottery scheme, which was exploded a few years ago, and of which the reader has probably some recollection.

Kentucky wanted a public library, and to procure it without cost, the State Legislature authorized a lottery to be run for a certain number of years. The results were, of course, pernicious, not only in Kentucky, but throughout the country, where the tickets were sold — Kentucky, through her agents, carrying on a demoralizing traffic in defiance of the laws of nearly all the other States. The profits of the lottery were great, but only a small part of them found their way into the treasury of the library, much larger sums being divided among the managers, and these managers have never made a satisfactory financial statement. The trustees of the library, though men heretofore highly esteemed, appear to have been demoralized themselves by seeing these great sums gathered and dissipated in irregular ways. They wanted a share in the spoils, and seem to have secured it. At any rate, the resources of the library have been squandered, the number of books appears to be much smaller than was represented, the building is unsuitable for its purposes, there are no funds to pay insurance or other necessary expenses, but some of the trustees have had suspiciously large incomes. A suit has lately been brought on behalf of all the creditors of the library to compel the partners in the management of the lottery to pay back the profits they received in fraud, it is claimed, of the public as beneficiaries of the charity, of the corporation itself, and of the ticket holders. Some of the ticket holders are among the creditors who bring the suit, and their representative and counsel is Mr. Blanton Duncan.

The most interesting development of the suit so far is a long affidavit of Dr. C. C. Duncan, a gentleman more than ninety years of age, who has been a trustee of the library from the beginning, but is not at all satisfied with the way its affairs have been managed. He represents that the library building, which has cost $310,000, is dark, damp, and malarious, the books are ruined by dampness and mold, the librarian is afraid to stay in his rooms on account of their unhealthiness, and several of the persons employed have contracted serious illness there. The trustees bought an old law library from Colonel Durret, the President of the Board, which was of little real value, and many of the books so worthless that they were torn up and sent to the paper-mill. The trustees paid $7,400 for a manuscript catalogue which was never made, as it would expose the character of the books in the library and finally destroy all public confidence in it. One gentleman affirms that when the lottery drawings were all over and several hundred thousand dollars were on hand to be divided between the library and the lottery managers, the latter divided it all among themselves, leaving the library nothing. Thus we see men of good character, backed by the Legislature of the State, undertake a lottery scheme for a meritorious object, and the result is utter and general demoralization among all the parties connected with it, and dishonesty among others. The result aimed at has not been attained, while great moral damage has been done to the thousands who participated in it.

HOW TO TEACH.*

SECRETIVENESS.

THE design of this faculty is to produce reticence, concealment, judicious evasion, policy, and to exercise a restraining influence upon the other faculties. Some persons will bear pain, sorrow, disappointment, without showing it. Others will respond to any influence, good or bad, pleasant or unpleasant, as quickly as a bell will respond to a blow, or a musical instrument to a touch of its strings. These people speak out their thoughts, and in this respect place themselves at the mercy of others. One of the most palpable illustrations of saying too much, and being too frank, that we recall, occurred to the writer some years ago in Brooklyn, N. Y. He rang the door-bell of a house on which was posted a bill, "This House for Sale; inquire within." A little girl about eleven years of age opened the door. She had light-blue eyes and a blonde complexion, with a thin head above the ears, and was one of those nervous, helpful, wide-awake, open-hearted girls. We asked: "Is your father in?" "No, sir; *he will not be in till eight o'clock.*" Thus she answered twice as much as we asked. "Do you happen to know what your father asks for the house which the bill says is for sale?" "Yes, sir," she replied. "He asks four thousand dollars, *but will take thirty-five hundred.*" Large Secretiveness would have answered the questions very differently, and not have falsified the truth. We did not ask her what her father would ultimately take, but simply what he asked, and she should have given only a simple answer to that question.

Every one is conscious of thoughts and feelings the outward expression of which would be unwise and improper. Secretiveness serves to hold the other faculties in check until the judgment, the conscience, and prudence shall have time to decide upon the propriety of explaining the subject. When newspaper reporters visit some individuals in the way of "interviewing," it would seem that the persons were transparent; they can not say a little and stop, nor can they pick and cull their thoughts in such a way as to utter only that which is judicious, or that which the public has a right to know; but what they know about a subject is discharged like a bowl of jelly, which comes out all in a lump if it be emptied at all. Another man will be polite, will say something, but not commit himself, will not say that which is untrue, nor improperly conceal anything; but the interviewer goes away just as wise as he came, and, perhaps, has learned something that he did not know before, viz., that occasionally one meets a man who knows how to keep a secret.

Doubtless, Secretiveness is exercised in connection with the desire for praise, in concealing faults, in putting the bright side in front, and in ministering to the gratification of Acquisitiveness more than in connection with any of the other faculties. Secretiveness is sometimes used as a kind of cat's paw to do the sly work with. It serves as a veil of mystery, and sometimes tends to mislead. It holds up false lights as a decoy, but does so only when it acts without a proper union with Conscientiousness.

* From "How to Teach, according to Temperament and Mental Development; or, Phrenology in the School room and the Family." By Nelson Sizer. S. R. Wells & Co., New York, Publishers. Price, by mail, $1.50.

The teacher will be able readily to point out those students who are governed by policy, who are tricky and unreliable, and also those who are outspoken to a fault; and should try to guide those in whom the faculty is weak, and also those who have it too strongly marked, in such a manner as to bring about in each, so far as may be, a judicious medium. Threatening children with mysterious punishments, falsifying, deceiving in any way, are calculated to blind the Concientiousness of children, and also to excite their Secretiveness. They soon learn that if the parent, teacher, or servant falsifies, misleads, or in any way influences their will by false pretences, they soon learn that *they* may do the same thing with *their* associates. Children who are in a school where the teacher is the soul of frankness and judicious guardedness of expression, will show it in their own conduct and conversation in the play-ground. On the other hand, children who are under the dominion of parents, teachers, or servants who are too largely developed in Secretiveness, will always be playing sly tricks, or manifesting false pretences, or in some way showing perverted Secretiveness, acting without the proper control of judgment and Conscientiousness.

We remember a case in school, when something had been done that was wrong, the teacher demanded of the boys to know who had done it, when Charles Wright spoke up, and said: "I was one of the rogues!" But he declined to tell who were his associates. He was willing himself to confess when questioned, but was not willing to bring the others into trouble or disgrace. Finally, the teacher, in discussing the subject before the school and with the boy, and, doubtless, admiring his frankness in inculpating himself, and his reticence and honor in avoiding the inculpation of others, seemed, as we remember it, anxious to get out of the difficulty without punishing the boy, and said: "I hardly know what I ought to do in this case." And turning to the manly boy, said: "Charles, if you were a teacher, and you had a boy under the same conditions that I have you here, what would you do?" We remember how his blue eyes dilated, and how his form straightened up as he said: "I would say to the boy, 'I will let you go this time, and try you again.'" For a moment the teacher was unable to speak; but when he did, we recollect that his eyes were moist and his voice mellow, as he said: "I will try you again." Let the teacher remember that the influences he brings to bear upon the plastic minds of pupils in the school will stamp the truth or the error upon their minds and memories, will influence their character and conduct as long as they live, and prepare them to make like impressions upon those brought under their influence. Good actions never die, and evil actions live, and work for evil after the repentant evil-doer may have long been in his grave.

CAUTIOUSNESS.

The organ of this sentiment is located at that portion of the head which is situated upward and a little backward from the opening of the ear—the top corner, so to speak, of the head. Anatomically speaking, it is located in the center of the *Parietal Bones*. It is generally the widest part of the head, and frequently interferes with the fitting of the hat or bonnet. We find some cases of excessive development, which would show a head with nearly an inch more width on each side than our cut would indicate, and some are much

narrower at the location of the organ than the inner dotted line would show. This cut is introduced to guide observation, and show the methods of the development of the organ.

USES OF THE FACULTY.

Danger surrounds us, and to adapt us to that condition, this element of prudence, watchfulness, solicitude, and carefulness forms a part of our character. There is no emotion more painful than that of fear. Some have the faculty altogether too strong; others are almost destitute of it, and they become rash, careless, and indifferent to danger and difficulty. It is a great, conservative element in character, and ought to be well-developed. When it is excessive it paralyzes courage and energy, and of course magnifies trouble and difficulty.

In the training of this feeling many errors prevail. Children are threatened with horrid objects of dread. They may be frightened into obedience by stories of the dark, of witches, sprites, and evil agencies; and the organ sometimes becomes inflamed, and even diseased, and some have been driven to insanity through its excessive excitability. When fear becomes the law of action, conscience and judgment are set aside. Some are very bashful in the presence of strangers, and they become confused. They can not recite lessons, or make a good appearance among strangers; and how natural it is for others to be provoked at such timidity! Nearly every person will remember instances in which he understood his lesson, but the embarrassment and anxiety arising from Cautiousness and Approbativeness, utterly stultified his memory and judgment, and he broke down, greatly to his own chagrin, and to the surprise of his teachers and all his friends.

The proper way to train a child that is excessive in Cautiousness, is to attract its attention, away from itself and its fears, to something else. Awaken its intellect, its imagination, its love of a story, its sense of wit—anything but Cautiousness. Telling a child that a stranger "will not hurt it," is precisely the way to excite its fear. If we were teaching and had a timid pupil, we would not call upon him the first hour of the session for a display of what he might know. We would let him march with the other pupils—let him recite in concert, if he liked, or refrain from it. Pay no attention to him; let him get used to the place; and when we wished to make his acquaintance more especially, we would ask him if he had brothers and sisters, and how many, and if he had ever been to school before, and whether the teacher were a man or a woman; and when the faculties of Cautiousness and Approbativeness were measurably allayed, we would venture upon the real subject-matter of inquiry by degrees.

Persons who make calls in families where children are bright, but cautious and sensitive, often make a great mistake, in their desire to please the family, by paying particular attention to the children. This course embarrasses the children, and it makes them act in a way that embarrasses the mother, and it is an excitement and a worry to all parties; whereas the visitor should pay no attention to the child, giving the mother a wink perhaps that would be understood, and very soon the child's embarrassment and fear will have abated, when such attention as may be necessary will be acceptable to the child and the mother. The child and the visitor are no longer embarrassed. But the visitor who insists on having the child come to be

talked to, and the mother who pushes, pinches, and jerks the child, and gently frets at it because it acts *so rudely*, and gives it a scolding after the visitor has gone, spoils the visit for all parties, and makes the child run the next time he hears the door-bell ring, lest he be subjected to a like painful experience.

We have noticed when a timid child was brought to us, who was not willing to submit his head to examination, if we began to look at the feet, and talk to the child about its shoes, and then measured one foot for *skates*, it would put up the other to be also measured, and forget all about the embarrassing conditions. Then we would measure the head for a new cap or hat, and thus approach the child through its intellect, allaying the fear and excitement produced by Cautiousness.

APPROBATIVENESS.

The desire to gain the approval of others is one of the strongest traits of human nature. This faculty lies at the basis of the desire to please, and its influence upon character is immense. It gives the sense of shame and mortification when public sentiment is brought to bear against the individual, as it also produces gratification when praise, attention, and kindly appreciation are bestowed. It is a powerful stimulant to virtue and effort. If a man were living alone in the world, or if there were but a single family upon an island, cut off forever from all contact with others, their conduct, if not their characters, would undergo a marked change. To most persons in civilized communities, the love of praise is both a strong and a weak point. When it takes the form, or works in the direction of flattery or vanity, it becomes a weak point. When it serves to create ambition for eminence or noble attainment, it makes us strong, or is a powerful stimulant to the elements of strength. Doubtless, merchants, artists, professional men, writers, and orators will think more of the fame which success will give them than of the mere acquisitions. It does not require a great deal of money to supply a man's wants, but wealth gives him independence, influence, popularity, and power; and it is the consideration of these which stimulates to acquisition. If the orator, writer, poet, or artist can be remembered with respect and admiration in all circles, he feels that his labor has not been in vain. There are some men who have faith enough to sustain them through trial and privation, conscious that posterity will do them justice. They have a prelibation of the honor that shall be bestowed upon them when history shall embalm their names.

This organ is situated on each side of the crown, and it gives width and elevation to that region. It is indicated by length of fibre from the brain-centre, or *medulla oblongata*, or capital of the spinal column, to the outward situation of the organ. It lifts the head as if it were pulled upward and backward. Self-esteem is located on each side of the middle line of the head, between the two organs of Approbativeness.

The term respectability, or the idea which is crystallized within it, has a wonderful influence upon most people, and in the main it is a laudable and commendable state of mind; and it grows out of the normal activity of Approbativeness. The chief error in respect to this faculty arises from its paramount activity and consequent frequent perversion. While it is directed to proper objects, and is not stimulated to undue activity, but is kept in proper subordination to the higher

powers, its manifestations are not only pleasurable to the owner, but productive of virtue, good manners, and good order.

SLAVES OF PUBLIC SENTIMENT.

Although the undue activity of this faculty makes a great many people slaves to false fashions and false standards of respectability, it need not be crushed out, but allowed healthy development and harmonious activity that may be blended with the other faculties in giving proper shading to the character. In school and in the family this faculty is enflamed in a thousand ways; of course, without any intention of wrong-doing on the part of the parent, friend, or teacher. We often see it excessively developed in the head of a little girl, who is beautiful and interesting in many respects. Persons who are anxious to please her parents as well as herself speak thoughtlessly of her beauty in her presence. Whatever she says and does is repeated by fond parents and applauded, and, of course, she is necessarily made vain, if not selfish. If she does not receive praise constantly, she feels neglected and miserable; and chagrin or neglect excites Approbativeness unpleasantly, producing a kind of jealousy. In school, her good looks and gay attire will attract the attention of all, awakening the partiality of the teacher and the older pupils, and as a natural consequence, she is petted by all. If she is sharp and selfish in her temper, it is likely to be regarded as smartness, and it will be tolerated, if not excused We have rarely seen one of these petted children who was faithful and successful in study. Popular without effort, why should she labor to achieve success and respect for excellence in scholarship? Follow the same person into society—she meets with flattery, expects it, lives upon it. Such persons are sometimes even rude, fretful, and impolite. They are called "wayward beauties," "spirited," and every other name but the right one is applied. Follow her to church, and it is easy to see that her fine appearance and elegant attire are at least the means of attracting attention. She is fed on flattery, which the admiring attentions she receives are calculated to awaken. If she is defective in moral culture, because she has not been called upon to exercise these faculties in order to secure approval, it would not be strange, and if she were to become a selfish, peevish, hypocritical woman, utterly unworthy to be a wife and mother, it would not be a surprise to all those who see clearly and think soundly.

HOW AMBITION MINISTERS TO VIRTUE.

Study the faculty in another phase. Suppose a little girl, with a plain face, having large Approbativeness, and who is, of course, hungry to be approved, yet has not the external attractions to win admiration. At home she is not called beautiful, and, perhaps, her parents are not able to deck her in elegant attire; at school she is not flattered, and she has, therefore, nothing to withdraw her attention from her studies. Desiring, through active Approbativeness, to gratify her ambition, she sees only one way open to her to secure approval, and that is to be faithful in her studies, attain eminence in scholarship, and be patient, kindly, friendly, gentle in her manners toward her associates, that she may thereby win their respect, affection, and regard. She thus cultivates her moral and social affections, studies to make herself acceptable, though her face is not attractive, and

seeks to rank as high as possible in her studies, as well as in her decorum. Does it need a prophet to see that she will be the angel of some home, where solid virtues will be cultivated as a means of approval and applause, rather than the showing off of beauty and costly apparel to win temporary admiration?

We have seen it in several schools, we have witnessed it in many families, where Approbativeness was made the moving factor of all influence. Under this method of training and government, praise and censure are brought to bear upon the conduct of the young, and Approbativeness thereby becomes the only conscience which the child has, or it would seem that the parent and teacher thought so, since all appeals are directly made to this faculty. Instead of saying to a child, do this because it is *right*, and showing that it *is* right, the child is often asked: "What will people think?" "What will the world say?" If the people and the world were thoroughly good and wise, their approbation would be a good standard of morals; but even then, it would be better to appeal to the child's sense of justice, to its disposition to do right because it is right, and that would build up a standard of right-doing in him, independently of the world's knowledge or opinion in regard to his conduct.

If this organ be very strong, it should be the aim of the teacher and parent to avoid addressing the child through this faculty, but appeals should be made to the intellect, to Conscientiousness, to affection, to Benevolence, to the sense of the fitness and propriety of a particular course. Let the child be trained to feel that no praise has value except that which is sanctioned by the principles of reason, righteousness, truth, and justice.

HOW VANITY IS FOSTERED.

The trouble in the training of this faculty, as well as in that of many others, is that the weak points and also the strong points of the child come in the same place where the parents' strong and weak points do. A mother who is keenly alive to what people will say, is very apt to ply her child.en with that influence. If Approbativeness be large, she will be likely to use that faculty, because it qualifies her to bring its influence strongly to bear upon her child; and if it be the strongest trait with her, she thinks it is so with her child. Let a teacher who has an excess of Approbativeness go into a school, and all the pupils who are organized in the same way will soon feel the magic power of her influence. A course of conduct that can be ridiculed or made the subject of shame will keep these pupils on the *qui vive*, and, perhaps, for a month the stern mandates will not be brought to bear upon the dull or active consciences of the pupils. An act is called "shameful," "disgraceful," "ridiculous," "outrageous," "inelegant," "impolite," "very improper," but it is not once called "WRONG." If it be shameful or ridiculous, that is reason enough for such a teacher and such pupils why anything should be avoided. It may be all else that the teacher says it is, but if it be intrinsically *wrong*, *that* should not be left out; indeed, it should be stated as the first objection, and all the other conditions may then be instituted as collateral forces.

HOW TO TRAIN EXTREMES.

If a class of pupils could be selected out of a hundred in whom Approbativeness were weak, and who needed, therefore, a good deal of culture in that respect, we would like to place a teacher in charge of such a class who had a little too much Approbativeness, so that she

would keep ringing the changes on that faculty, putting it, as it were, under her hothouse treatment, and bringing the focal rays of its might upon the unproductive soil to induce a development of the organ in the pupils who had too little of it. On the other hand, if we could take all the pupils in the school who had excessively developed Approbativeness, we would put them in charge of a teacher who had only a medium share of it, but a strong development of those qualities with which the pupils were endowed only in an average degree. In six months' time the feverish excitement of Approbativeness in those pupils would be lowered by twenty-five percent., as it ought to be, and they would learn, for the first time, perhaps, to take into consideration other points in regard to conduct and character besides Approbativeness; would learn that other influences could be brought to bear upon the regulation of the conduct of their daily life, and that conduct had other and even richer remunerations

Of course it is not expected that pupils can be classified with respect to each of their faculties, but only according to groups of faculties and temperaments. But if a teacher be wise and well-informed in regard to the correct mental philosophy, he will instantly see who is well-endowed with the faculty of Approbativeness, and who is deficient. This can be determined as readily as any other fact in respect to the person. We can see who have large and who have small eyes; who have strong features, and whose are delicate; who are dark and who are light; who are prominent in the brow, and who have a prominent top-head; and the development of Approbativeness is quite as easily recognized, and even the natural language or manner of the person, at the first interview, will readily tell the phrenologist whether Approbativeness is a leading trait, or whether it is much excited at the moment.

Teachers and mothers should thus take the hint, and the treatment of those in whom the organ is large or small should be so conducted as shall be best for the individual, and best for the purpose to be attained. This being one of the more influential of the faculties, it may properly form the nucleus for a leading classification of pupils.

If one wishes to exert a quick influence, if he has only a moment to act, he must work through the strongest faculties. If his object is to cultivate, mold, and train the character, then he should guard against exciting the abnormally strong faculties, and treat the subject so as to call out the dormant and less influential faculties. We know that a man who loves money supremely will be most easily influenced by an address to that feeling. It becomes the center and source of influence in himself, his object of desire, the inspiration of every effort; while Approbativeness inspires one to work hard, and watch and be wakeful and weary in the pursuit of objects the attainment of which will give rank, reputation, and honor.

This faculty is certainly right in its normal action. It ministers to virtue among those who rise to a medium position in morals more than it ministers to vice. Among the baser sort, who simply glory in their strength, their lust, their courage, or their cruelty, it tends to foster vice. The faculty sometimes, of course, leads to crime and sin, but it ought to work with the higher sentiments, so that ambition and pride shall minister to virtue and lead in that direction.

The standard of respectability will be catered to by this faculty, whether it be high or low, good or bad. In commercial circles, wealth is a great element in respectability. Among scholars, attainment. Who thinks to ask, or who cares how much Tennyson or Longfellow may be worth in property? We may hope they have a sufficiency. Their rank and renown have in no sense the flavor of finance.

WHY NOT SPEAK PROPERLY?

THE careless, slip-shod manner in which people who deem themselves educated use common English words in their every-day speech is scarcely short of amazing. If appearances deceive in any particular, it is certainly in this; for if we were to infer the degree of culture possessed by the men and women we meet daily from the character of their verbal expressions, we should set it, in most cases, at a point much below their claims. Every word in the English language has its peculiar significance and application, just as would be rationally thought, and the cross uses and false applications so common in ordinary parlance are totally unwarranted.

Society has fallen into a vicious habit in the use of terms, and it is time that a strong effort was made to eradicate it if we would preserve the English tongue in its purity and simplicity. The little volume, "The Right Word in the Right Place," and Mr. R. G. White's larger book on "Words and their Uses," are excellent monitors for popular reading, and show clearly the errors we are constantly committing without a thought of their glaring absurdities. We quote from the latter a few examples of the more common improprieties of language:

"Aggravate. This word should never be employed in reference to persons, as it means merely to add weight to—to make evil more oppressive; injury is aggravated by insult. It is sometimes improperly used in the sense of irritate, as 'I was much aggravated by his conduct.'

"Balance, in the sense of rest, remainder, residue, remnant, is an abomination. Balance is the difference between two sides of an account—the amount which is necessary to make one equal to the other. . . . . Yet we continually hear of the balance of this or that thing; even the balance of a congregation—of an army.

"Bountiful is applicable only to persons. A giver may be bountiful, but his gift can not—it should be called plentiful, or large. 'A bountiful slice' is absurd.

"Fetch expresses a double motion; first from and then toward the speaker. It is exactly equivalent to 'go and bring,' and ought not to be used in the sense of bring alone.

"Calculate, besides its sectional misuse for think, or suppose, or suspect, is sometimes in the participle form—calculated—put for likely, or apt: 'That nomination is calculated to injure the party.' It is calculated (designed) to do no such thing, though it may be likely to.

"Citizen should not be used except when the possession of political rights is meant to be implied. Newspaper reporters have a bad habit of bringing it out on all occasions when 'person,' 'man,' or 'bystander' would express their meaning much better.

"Couple applies to two things which are bound together or united in some way. 'A couple of apples' is incorrect; two apples is meant.

"Dirt means filth, and is not synonymous with earth or soil. Yet people sometimes speak of a dirt road, or of packing dirt around the roots of trees they are setting. They mean earth.

"Execute. When a murderer is hanged, his sentence is executed, but the man is not. A man can not be executed—that is, followed out or performed.

"Expect looks always to the future. You can not expect that anything has happened or is happening, but only that it will happen.

"Get means to obtain, not to possess. 'He has got all the numbers of the *Christian Instructor*.' 'Have you got good molasses?' 'They have got bad manners.' Why will people persist in introducing the word in such sentences as these, where it is so evidently superfluous?

"Help meet. An abusive use of these two words as if they, together, were the name of one thing—a wife—is too common. The sentence in Genesis is: 'I will make him a help meet for him;' that is, a help fit for him. There is no such word as helpmeet.

"Lie—Lay. Persons not grossly ignorant sometimes say they will lay (meaning lie) down, that they have laid (lain) an hour, or that the hammer is laying (lying)

by the tacks. Lie means to recline; its past tense lay—'I lay there all night;' its participles, lying and lain. Lay (used of present time) means to put something down—one lays a carpet; its past is laid—'I was interrupted while laying it, and it was not laid until night.'

"Love rules the heart, not the stomach. You love your wife, or ought to; but favorite articles of food you like.

"Observe should not be used for say, as in the oft-heard sentence: 'What did you observe?'

'Sit, often mispronounced set, is occasionally written so; but it is to be hoped rarely."

IS MAN AN ANIMAL?

IN a late number of the PHRENOLOGICAL JOURNAL one of your correspondents says: "Man is not a 'higher animal.' He is not an animal at all." What is animal? The word is derived from the Latin word *animalis*, of, or belonging to, the soul, from *anima*, a soul. If the derivation is correct, an animal must be a being possessed of an anima, or soul. What has a soul is an animal, and what has not a soul is not an animal. To deny this, is to deny the plain import of language.

The Hebrew *nephish*, the Greek *psuché*, and the Latin *anima* are synonymous with the English word soul, and the Anglo-Saxon *samle*; they mean the same thing. The one is properly translated by the other. In the original of the Bible, the word *nephish*, soul, is very frequently applied to mere animals, and also to man. It is as applicable to the one as to the other. The vegetable has not a nephish, or soul, and therefore is not an animal. It is merely corporeal. According to the original language of God's Word, everything, from the lowest animal up to man, that has the nephish, or soul, is an animal. See various passages in the original from Genesis i. 20, 21, 24, 30; ii. 19; ix. 10, 15, to Revelations viii. 9. The *nephish*, *psuché*, or soul, is applied to mere animals, and ought not He who made them to know whether His own language is correct or not, or whether it needs the corrections and emendations of man?

As is the rank of the body, so is that of the soul [*nephish*], but there is no other soul on earth that will begin to compare with that of man. In soul and body he stands at the head of creation on earth—earth's lord. Man is an animal, but was made worthy of Him whose image and likeness he bears. Of no soul, except that of man, is life after death predicated. Mere dead animals are never called *psuchai*, souls.

The vegetable has only the body—is only corporeal. The mere animal has only the body and soul. It is both corporeal and animal. Man alone on earth is a trinity; and he is as really a trinity as his Maker is a trinity. He was made in the image and likeness of God. Genesis i. 26. What God is, man in his original purity was, but God is infinite, and man is only finite. The Bible gives us reason to believe that what man is, all the higher intelligences of all worlds are. All are trinities, or at least were created trinities. Many of the fallen have ceased to be trinities. They have become mere spirits, because they are fallen. Mere spirits are only to be found among the fallen. Deny this, and there are many passages of Scripture which can not be explained.

That man is as really a trinity as God is a trinity, is evident from many passages of God's Word. Man has a body, a soul, and a spirit. 1 Thessalonians v. 23. The body he has in common with all vegetables and all animals, and therefore he is allied to both, and he is a corporeal being—a body-being. The soul [*nephish*] he has in common with every animal in the universe, and he is allied to them; he is an animal. But the *ruach*, *pneuma*, or spirit, man has in common with God, and all the highest intelligences of the universe. In the proper and highest sense of the word, only intelligences have the spirit. In consequence of his having the pneuma, or spirit, man is incomparably above every mere animal on earth.

Death is not predicated of the spirit, but it is of the soul. I believe this is true of the

original, and of every translation of the Bible. I have fourteen different translations, in quite a number of different languages, and yet I have never seen the expression "immortal soul" in any Bible; but the soul [*nephish*] is very frequently spoken of as dying or being dead. Recently, in looking over the index of a celebrated work, I found that while the author says the soul exists in the separate state, he does not give a single proof-text that refers to the *psuché*, but such as refer to the *pneuma*, or spirit. Had he said that man may exist in the separate state, or that the souls of the righteous do exist in that state, or that the spirits of all do exist in that state, it would have been easy for him to have adduced proof-texts, but to prove that the soul is immortal is an impossibility. He who considers the soul and the spirit to be one and the same, grievously errs.

The words *nephish* and *psuché*, like the English word soul, is often used for the whole man, the person. We say of a city that it contains so many souls; that is, so many persons. 1 Peter iii. 20. "Wherein few," that is, eight *psuchai*, "souls were saved by water." Christ says, Matthew ii. 25, 26, "For whosoever will save his *psuché* [soul], shall lose it; and whosoever will lose his *psuché* [soul] for my sake, shall find it. For what is a man profited, if he shall gain the whole world and lose [*zemiothe*] his own *psuché* [soul]?" or, "What shall a man give in exchange for his *psuché* [soul]." See also the original of Mark viii. 35, 36, and Luke ix. 24, 25. That the word *psuché* is here used for the whole person, is evident, for Luke, in one instance, used *seauton*, himself, for *psuché*. Very many other passages in the Old and New Testaments might be given. JAMES BOGGS.

AN INTIMATION.—Much interest was awakened at the Centennial Exposition by the appearance there of a new kind of ironware for domestic uses. The array of utensils of almost every conceivable shape and adaptation was very large, and the housekeeper was inclined to linger over them and express an enthusiastic appreciation of the ingenuity and enterprise which had brought out so convenient a material. This ware was called "Granite" on account of its resemblance to gray-stone. It found a ready market, and, as is usually the case, awakened competition. A similar pattern of glazed iron was introduced by another company, and styled "Marbleized Ironware."

After a while considerable stir was made by the announcement that in this beautiful coating of the dish, kettle and pan, might lurk an insidious poison. A letter published in *The New York Herald*, by a Mr. G. T. Angell, averred:

"Our State chemist, Dr. Hayes, of Boston, has analyzed several specimens, and found the enamel to contain lead and arsenic in very dangerous proportions. Sauces, sour milk, tea, and water even, take the poison."

The editor of the Boston *Journal of Chemistry* commented on this development thus:

"It would certainly be a short-sighted policy for manufacturers to use such materials if they were necessary (which they are not), for the fact would soon be known and the sale of the ware arrested.

"The glaze used is essentially a glass, or a silicate of soda, with some modifications adapting it to the purposes of a glaze. There is no need of the use of lead and arsenic, and if only traces of these agents are found, we do not think that any special alarm need be felt among housekeepers. Care should be used to observe if the glaze remains intact by use. If it cracks, or small bits separate, so as to become mixed with the food, it might become dangerous from its physical effects."

Of course the manufacturers gave attention to the matter, and the "Granite" people issued a circular in which were set forth the opinions of eminent chemists regarding the character of their ware, and asserting its perfect freedom from substances which could poison.



It is only by training all together—the physical, intellectual, and spiritual elements—that the complete man can be formed.

"MEAT" IN THE SCRIPTURE SENSE.

UNDER the caption of "Condensed Meat," Dr. E. O. Haven critically discusses the significance of the terms in the New Testament, which have been rendered by the English word *meat*, and it will not fail of interest to hygienists, to read the views of a critic who makes no profession, so far as we know, of vegetarian practices. He says:

"The word meat occurs in the New Testament nearly fifty times, being the translation of ten different Greek words, no one of which means, or suggests the meaning of 'meat' in its modern sense; and each of the ten Greek words could be better translated into English without the use of the word meat, and each ought to have its own proper translation.

"The first word so translated is *broma*, literally food, or something to be eaten. In Luke iii. 31; ix. 13; John iv. 34; Romans xiv. 15, 20; 1 Cor. viii. 8, 13; x. 3; it would be much better to translate it 'food' than 'meat.' In 1 Cor. iii. 2, where a contrast between milk and *broma* is drawn, it might be, 'I have fed you with milk, and not with any thing to be eaten.' In Mark vii. 9; 1 Cor. vi. 13; 1 Tim. iv. 3; Heb. ix. 10; xiii. 9; where the plural is used, 'meats' might be allowable, but 'different kinds of food' would be preferable. The second word translated meat is *brosimos*, the adjective from *broma*, Luke xxiv. 41. 'Have ye here any meat?' It should be, 'Have ye here any thing eatable?'

"The third word, *brosis*, is translated variously—in seven places meat—but should always be translated food. Consult John iv. 32; vi. 27–55; Rom. xiv. 17; 1 Cor. viii. 8; Col. ii. 16; Heb. xii. 16. It need never be understood as flesh, but always food.

"The fourth kind of meat is found in the word *phagein*, in Matt. xxv. 35: 'I was a hungered, and ye gave me meat.' It should be, 'and ye fed me,' literally, 'ye gave me to eat.'

"The fifth word is just as obvious a mistranslation, *prosphagion*. John xxi. 5: 'Children, have ye any meat?' The real question was, 'Children, have you any thing for me to eat?' Literally, any thing usually eaten with other food—any little thing to eat.

"The sixth word that introduces the word meat is nothing more nor less than table, *trapeza*. Acts xvi. 34: 'He set meat before them,' is a mistranslation. It is literally, 'He set a table,' that is, he gave them a dinner, or a meal of victuals.

"The seventh word introduced into this hash, made up of ten elements, but all called 'meat,' is *trophe*, which every Greek scholar recognizes as nourishment, or whatever nourishes. There are fourteen verses in the New Testament in which this word occurs as meat, but in all cases the word nourishment is better.

"The eighth word so restricted is *eidolothuton*, Acts xv. 29. Literally it is 'a thing offered to an idol.' It may be flesh, or vegetable, or liquid, or any thing else. 'That ye abstain from meats offered to idols.' It should be 'from whatever is offered to idols.'

"The ninth member of this illustrious ten is *sitometrion*. Luke xii. 42: 'To give them their portion of meat in due season.' *Sitometrion* was a technical term, meaning rations, the food given daily to a soldier or employee of the Government. 'To give them their rations,' or regular food.

"Finally we reach the tenth word translated meat, *sunanakeimai*, which means simply 'sit with,' and is usually so translated, but in four verses our translators introduced the words 'at meat.' In Matt. xiv. 9; Luke vii. 49; and Luke xiv. 10, 15, the 'at meat' should be stricken out. It existed only in imagination. Thus we can wholly dispense with the word 'meat'—perhaps retaining 'meats' in the New Testament. Yet in the few passages where 'flesh' occurs as an article of food, meat would be as good a translation. A similar want of discrimination is shown in the translation of the words rendered 'food.'

"There can be no doubt that a revision of the English Bible is required, and it is to be hoped that the translation now in preparation will be faithful to the original."

THE ACTION OF MEDICINES.

A "QUERIST," writing to the Chicago *Inter-Ocean*, propounds the following conundrum:

ALVIN, ILL., June 14, 1877.

1. We are taught by all the drug medical schools that drugs *act* on the system. What proof have we that such is the case? 2. If an emetic *acts* on the stomach, what is the *modus operandi?* 3. Are not the medical profession in error on this point, and are not the effects of medicines caused by the living system acting upon them to expel them from the vital domain because they are poisons and non-usable? QUERIST.

The *Inter-Ocean* replies:

Answer: 1. The effects they produce. 2. An emetic is a medicine that causes the stomach to contract and discharge its contents through the œsophagus. They are of two kinds, viz., those which act on the muscular coats of the stomach directly, as alum, cupric sulphate, etc., which act promptly, and those which enter into the circulation and cause emetic action by their effect on the nervous center, such as ipecacuanha, tartar emetic, lobelia, and many others. 3. This can hardly be considered a fair question, because it involves the discussion of numerous others dependent upon it. It is true that many medicines are virulent poisons, while others are not. Any substance that has the property of curing or mitigating diseases may be called a medicine, and most of such remedial agents enter largely into foods of various kinds, which stimulate the system and produce different effects. We are aware, however, that there is a school of physicians that have held that all medicines are poisons.

The above answer shows how difficult it is to understand or interpret facts in opposition to a preconceived opinion. The *Inter-Ocean* seems to be quite unaware that its argument disproves its theory. It says the proof that drugs act on the system, is "the effects they produce." Now these effects prove exactly the contrary. The *Inter-Ocean* does not mention a single effect that is not an action of the living system. An emetic "causes the stomach to contract and discharge its contents." Very true; and this contraction (effect) is the action of the living stomach. The stomach contracts on and expels the drug, therefore it acts on it. If the drug contracted on and expelled the stomach, the effect would prove the action of the drug. But this never occurs.

But the *Inter-Ocean* seems to be a little dubious of its own argument, and thinks the question is hardly a fair one, because its discussion involves other questions. I can not see how the involution of ten thousand other questions can affect the fairness of this one. Drugs do act on the living system, or they do not. It is plain yes or no. And the question is susceptible of demonstration on its own merits. Indeed, the demonstration is afforded in "the effects they produce."

But to make the matter still plainer, let us take the simplest possible illustration. A horse and cart are seen moving along the street. Does the cart push the horse, or does the horse draw the cart? Reasoning from "the effects produced," the *Inter-Ocean* might say that the cart causes the muscles of the horses legs to contract, and so the horse moves along and draws the cart, all right; but wherein is the action? This is wholly on the part of the living thing, the horse.

If the *Inter-Ocean* will ever thoroughly investigate this subject, it will learn that, in

the relation between dead and living matter, the living is always active and the dead always passive. This is a law of nature and can have no exception nor qualification.

The *Inter-Ocean* is involved in the error of the whole medical profession in mistaking *effect* for *action*. They are very different. Dust in the nose may be the cause of sneezing. But sneezing is the action of the living system; or, in other words, the *effect* of dust in the nose is sneezing; but this effect does not prove that the dust acts on the nose. It proves just the contrary.

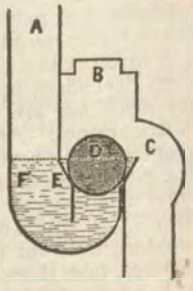
Again, every effect of every one of the two thousand drugs of the materia medica is a *symptom of disease;* and all symptoms of disease are actions of the living system, or the effects of such action. Let any one name any effect of any medicinal drug whatever, and then turn to any standard work on Pathology, and he will find such effect mentioned as a symptom of disease; and if he will then turn to any work on Toxicology or Medical Jurisprudence, he will find the same symptom mentioned as a sign or symptom of poisoning. These facts prove that all medicines are poisons, and that whenever they occasion appreciable effects, the effects are disease. But disease itself is vital action. It is the action of the living system in its efforts to rid itself of poisons and impurities.

But in conclusion, what does this all amount to? Is it anything but a verbal theory, whether drugs act, whether the living system acts, or whether both act? It amounts to everything so far as a correct medical science and a true healing art are concerned. Medicines are administered because they are supposed to act on some part or organ in virtue of some special inherent affinity for that part or organ. The assumption is scientifically absurd; but without it drug doctors have no theory, no basis, no reason, no excuse for poisoning a person because he is sick. As soon as the people can be made to understand the primary and self-evident truth, that the so-called *modus operandi* of medicines is simply the effort of the vital domain to rid itself of their presence, they will never more consent to swallow poisons, or anything else but usable things—food and drink.

R. T. TRALL, M.D.

A NEW SEWER TRAP.

WHILE it is a question, whether or not the substitution of the modern system of sewerage for the old system of open drains and cess-pools, has been of any benefit to the health of the community, there can be no question as to the deleterious effects of the present system, and of its connection with the more fatal modern diseases, diphtheria, scarlet fever, etc. It could scarcely be otherwise, with houses more or less constantly permeated by the foul emanations of the sewers, products of decomposition laden with the sphores of disease; returned through the waste pipes, to be deposited in the lungs, and to impregnate the blood with the seeds of death. The common system of sewerage is specially defective in the trapping of the waste pipes, for not only are they not sufficiently trapped, but the traps in use are inadequate, in that a trap which offers only water as a preventive to the return of the gas, affords only a partial protection; as water is a ready solvent of all gases, which it will take up under pressure, to part with where the pressure is less. But even were water a sufficient protection, it is



A SEWER TRAP.

constantly being siphoned out. To meet this objection a number of valve traps have been invented, but none which seem to offer greater advantages than the one figured above, which is offered to public considera-

tion as at once effective, durable, and simple in construction. It is a modification and improvement of the old style ∽ trap, combining all the efficacy of the water trap, with the addition of a ball valve, which at the same time is independently efficacious, and equally so whether there be any water in the trap or not.

In the design the ∽ trap is fitted in the second bend with an oblique enlargement E, an upward extension B, and an oval opening C, in and above the oblique enlargement. The oblique enlargement forms the seat for an air-tight ball valve, and the water lies in the trap to the level F, there being just enough in the trap to secure the dropping of the ball upon its seat. Any excess of water falling into the trap causes the ball to rise above the outlet C, which being oval, the ball can not clog, and being of the same capacity as A, can offer no obstacle to a free outflow. As soon as the water runs off, the ball drops back into its place by its own gravity and presents an impervious barrier to the passage of any gas; all pressure from the sewer side, only fixing it more firmly. B. F. UNDERWOOD, M.D.

Patented April 5th, 1877.

OLD-TIME PHYSIC.

THE evidences of their *peculiar* skill, which eminent physicians of three or four centuries ago have left on record in the shape of prescriptions and admonitions, appear to the medicists of the present day crude and ridiculous enough, and yet, can it be said that modern pharmacy has reduced the mortality by disease below the rate of mediæval times? One or two leading doctors have distinctly affirmed that with the increase of physicians, and of the Materia Medica, diseases have increased.

A medicist of the Elizabethan era, whose reputation was considerable for ability to treat successfully the ills to which flesh was then heir, has left us some clews to his method of "discussing" a case in the way of prescription. This is one which, for the multitude of its ingredients, certainly deserves the title "panacea."

"ELECTUARIUM DE GEMMIS."

"Take two drachms of white perles; two little pieces of saphyre; jacinth, corneline, emerauldes, granettes, of each an ounce; setwal, the sweate roote doronike, the rind of pomecitron, mace, basel seede, of each two drachms; of kedde corall, amber, shaving of ivory, of each two drachms; rootes both of white and red behen, ginger, long peper, spicknard, folium indicum, saffron, cardamon, of each one drachm; of troch diaroden, lignum aloes, of each half a small handful; cinnamon, galinga, zurubeth, which is a kind of setwal, of each one drachm and a half; thin pieces of gold and sylver, of each half a scruple; of musk, half a drachm. Make your electuary with honey emblici, which is the fourth kind of mirobalans with roses, strained in equall partes, as much as will suffice. This healeth cold diseases of ye braine, harte, stomack. It is a medicine proved against the tremblynge of the harte, faynting and souning, the weakness of the stomacke, pensiveness, solitarines. Kings and noblemen have used this for their comfort. It causeth them to be bold spirited, the body to smell wel, and ingendreth to the face good coloure."

A GOOD TIME.—We are told that a birthday party was given a little boy in Brooklyn recently, and one of the guests described it to a physician the next day in the following terms:

"First we all had some lemonade and sponge cake; then we had birthday cake and ice cream; then we had lots of mixed candies and some nice chocolate; and then we had some more lemonade and birthday cake and caramels; and then Hattie Thomas and I had an awful stomach ache, and Johnnie's mother and Miss Mary mixed a big glass full of peppermint water, and after they made Hattie and me drink all we could of it, they gave the rest all round to the others, and Johnnie's mother said she guessed we had better go home."



THE PLUM AND THE APRICOT.

Classic Mention—Green Gage—Wild Plums—The Paradise for Plums—The Curculio—Plum Culture—Varieties—Prunes—The Apricot—Wholesomeness—Cooking—Economy.

Recipes: Canning Plums—Ambrosia—Dressing—Pie—Prunes.

UNLIKE the coy, barbaric king of our last number, who was so unwillingly introduced to civilization, our present subject was the friendly companion of the first nation that walked out of barbarism into civilization. The ancient Egyptians raised plums. Plum trees abounded in Thebes and Memphis. The plums of Damascus also were in great repute, and all of these places sent this delicious fruit into Europe as soon as there were people there sufficiently civilized to appreciate it.

CLASSIC MENTION.

Some of this fruit was dried, and some was preserved in honey or in "sweet wine"—notice *sweet wine*, that is the quotation from old Athenæus. It was probably stewed down in grape juice, making a delicious preserve. In the time of the Cæsars the Romans raised their own plums, of the most delicious qualities, "in purple and gold," says Virgil; while Pliny complained of their abundance as a useless luxury. Ah, could those ancient wiseacres have known true wisdom, they would have been content if the people had indulged in nothing more hurtful than plums. Pliny's "Damascene plum" is our Damson, which has kept its characteristics probably without much change. If they had other choice varieties in those days, we know nothing of them now. The next variety seems to have come out of the unknown, or rather to have sprung in all its perfection from the hands of Queen Claude, like Minerva from the head of Jupiter. Doubtless she did not make it; we are merely told that she "introduced it," and in France it still bears her name. It is the *Reine Claude*. The Germans, with their usual lack of happy adaptability in the use of foreign words, have called it *Renklode*, and prefixed the *Grunen*, as if anticipating the (late) introduction of the *Reine Claude Violette*. This *Reine Claude* is the

GREEN GAGE

of the English, and the following account is given of this new christening: A family by the name of Gage, in England, obtained some fruit trees from the Monastery of Chartreuse, at Paris, and among them was a plum tree, upon which was no label. Like many a literary venture, when the name of author and publisher is lost, it was claimed by the finder, and the gardener of said family christened it with the family name and called it a Green Gage. And so the name (if not the family) has been perpetuated, and we have now several varieties of *Gages*, which has become a specific name, and probably very few of those who use it suspect that a Gage was not always simply a *plum*. This comes probably from a peculiarity of dropping the "plum." And so of Damsons, standard English cook-books seldom putting either of them under the heading of "Plums." There is many a queer history in a word, and if "Reine Claude" holds sway only in France, it is no more than a just retribution for not giving the name and the lineage of the waif that she introduced.

WILD PLUMS

are abundant in both hemispheres, but we are not aware that any of our delicious, cultivated varieties came from them. In England there is the Sloe, or thorny plum, found in Wales and sometimes in Highland valleys. It is acceptable for its abundant early white flowers, but its fruit, attaining the size of a large black currant, is ripened only by frost, and not very palatable at that. Its suckers, which are very abundant, are much in demand for walking-sticks. One variety, which has a profusion of large double white flowers, is cultivated in China and Japan. The Bullace is another wild kind, common on the Continent, and the fruit of this is in some demand for cooking. Uncooked, they are so sour that in Provence they are called *sibarelles*, because it is impossible to whistle just after having eaten them. In this country we have at least three distinct kinds, the fruit of which is in some demand. The Chickasaw plum is found in the South and West, a variety of which is the Dwarf Texas plum. The wild red or yellow plum (for it varies in color) is found all the way from Canada to the Gulf. It has a thicker skin than the previous species, and is quite in demand in new countries, where fruit is scarce. I have never seen it cooked "hygienically," but I have very pleasant recollections of its toothsomeness when fresh (rejecting the skin) and of the "preserves" it made for winter use. The "beach plum" grows on or near the sandy sea-coast from Massachusetts to Virginia. It has of late frequently found its way to city markets, where it attracts a fair share of attention as the first plum of the season. These are a purplish red, but they all fall far short of the richness in taste or appearance which characterizes the cultivated plums. These, after having come up out of Egypt and wandered through Europe, have found at last their congenial home in America. This is the

PARADISE FOR PLUMS.

In no other country are they known to sport into so many varieties, to grow with such luxuriance, and to ripen into such deliciousness. The soil and the climate seem perfectly adapted to their wants. It must be admitted, however, that this is only in favored localities. The Hudson River is one of these, especially in the vicinities of the cities of Hudson and Albany. The soil, a rich clayey loam, is not only just what is needed for the growth of the tree, but the clay is not easily penetrated by the curculio, that fearful enemy of the plum. Other sections of the country also produce the plum, but the sandy soils of Long Island, New Jersey, Delaware, and Maryland are not well adapted to its growth; or if it grows, its fruit falls a prey to its insect enemy. All these considerations greatly limit its growth, and especially its production for the market—the practical fruit-growers preferring for their other fruits the sandy soil which is not favorable to the plum. So it often happens that the markets of the great eastern cities are but poorly supplied with a fruit which in the hands of amateurs is one of the finest in the country, compared with the produce of other lands. Speaking of

THE CURCULIO

reminds us that it is worth the while to point out how science is able by diligent

study to overcome the difficulties of nature. This little pest, which ruined so many promising orchards, seemed like one of the plagues of Egypt—so mysterious, far-reaching, and defiant. But the skill of brain triumphed at last. This insect is a little dark brown weevil, less than a fourth of an inch in length, and so shy as often to elude notice. It does not eat the fruit; it simply punctures it soon after it has set, making a little crescent-shaped scar, which is not noticed until July, when the fruit begins to drop. It is too late to save it now, for the mischief is done. Careful watching immediately after the blossoms fell, would have detected the thief. Perhaps the best way to find him is to spread a sheet beneath the tree and then strike its trunk sharply with a wooden mallet, and with sufficient force to jar the tree. Now if something that looks like a ripe hemp-seed falls, examine it, and you may find it the curculio rolled up and playing possum. You will know him by two little humps on his back. Dispatch him quickly, and strike the tree again until you have shaken them all off.

His business there is to puncture the fruit with his mandibles and deposit an egg, one in each fruit. The egg hatches and the worm eats its way to the stone; when the fruit drops, the worm crawls out, enters the ground and is supposed to remain there until spring, when it comes out a weevil, ready to go through the same round as its parent. A clay soil is not easily penetrated by the worm. The dead plums may be gathered and scalded or fed to the hogs Hogs and fowls may be turned into the plum orchard. The ground at this season may be covered with cement or with salt, which not only kills the grub, but becomes a good fertilizer; the ground may be paved, or the tree may be planted in or by the side of some frequented path. All these are popular and effective remedies or preventives to the ravages of the curculio.

CULTURE.

Besides these hints, it may be well to know that plums sometimes come true from seed; that by planting a good variety you are more likely to produce a good tree than with most other kinds of fruit. This makes it very interesting for experiments. The stones should not be permitted to mold nor to become very dry. Mix them with sand, but do not keep them saturated with water. Let them thaw and freeze through the winter, and if you wish to be certain of growth, make sure that the stone is cracked open in the spring. If the frost has not done it, crack it by striking the edge gently with wood on wood. Then plant carefully one or two inches deep and cultivate thoroughly, having clay in the soil if you can get it. The nurseryman usually plants seeds of the free-growing sorts, and buds with the kinds he wants in a little less than three years from the time the seed was planted, or about the middle of July. The plum is a hardy tree and requires but little pruning, which should be given it before the middle of the summer, so that the gum shall not exude and waste the life of the tree.

VARIETIES.

We have in America originated nearly all our choice kinds, excepting the Green Gage and the Damson, and for these we have paid the mother country good interest. It must not be imagined, however, that they have no variety of their own, for Johnson, writing in 1633, professed to have sixty rare sorts in his own garden, and more coming in every year. They, however, still make great use of the Damson, that being almost the only market plum cheap enough for the common people. To some of our most noteworthy kinds we have given our national names, so that they are readily recognizable, as the Washington, Jefferson, Columbian, etc. But none of these seem to serve a good purpose for drying, or is it because we are too busy to undertake the making of

PRUNES?

All this sort of dried fruit comes to us from France and Germany, made from sorts not in common cultivation here. Doubtless this, as well as the cheapness of labor there, has something to do with the fact that they can raise plums, dry them and send them here and then sell them at prices so low that we do not think of competing with them.

The plums when gathered are laid on lath

or wicker-work frames some days in the sun, and then they are repeatedly placed in moderate ovens for a day at a time until dry. The operation is quite a nice one, and subject to variations according to the degree of finish the quality of the fruit demands. The finer sorts are picked before sunrise, touching only the stem, and placed in baskets where they do not touch each other, and dried very carefully for some time in the sun first, and on the whole with less oven heat than the others. These retain their bloom after they are dried. With some they even take the pains to round them out by turning the stone when they are half dried. Still others are made from very choice fruit—the large yellow Brignole plum. These are shaken off the trees, and the second day they are skinned by the nails of women, so that no metallic instrument may mar their color and transparency. After drying several days, they are stuck upon the points of osier rods several days more, then their stones are extracted, and they pressed into shape and placed in wicker baskets—"a super-excellent sweetmeat," doubtless what we call "prunelles."

The now common "French prunes" have been but recently introduced into common use in this country. They are a little higher in price than the old "Turkish" prune, but much less expensive on the whole, since they require no sugar to fit them for table use, and some are even sweet enough to cook with sourer fruits. They are also much larger and richer. In marketing they are assorted according to their sizes, the largest counting only from forty to forty-five to the pound, while the smallest range from ninety to ninety-five, and the prices vary accordingly. This is the explanation of the figures we sometimes see attached to the market quotations of prices for French prunes. It is desirable to understand this if you would be able to criticise the prices your grocer may ask for his prunes. He may have an article of which from fifty to fifty-five will weigh a pound, and for which he will therefore ask from six to eight cents more than his neighbor, whose prunes are so small that it takes nearly a hundred of them to weigh a pound. The numbers will usually be given to customers who ask, or you can read them on the boxes. The so-called Turkish prunes come unassorted in casks and barrels, and at about two-thirds the price of the smallest French prunes.

THE APRICOT

is sufficiently a plum to be consorted therewith, though a separate species. It has been described as a small peach with a plum stone. This answers to the eye. It ripens earlier than the plum and earlier than any but the earliest peaches, making its appearance in the markets in July, just after the height of the cherry season. It looks like a little delicate peach—color, down, and all—being seldom over two inches in diameter—most of the sorts only one and a half inches. Its blossoms are white, and its stone is smooth, like that of the plum, and in some of the varieties, at least, it is of a peculiar olive color. It is a good keeper. It is also a hardy tree up to 42° north latitude, and indeed many are raised north of that. It is sometimes grafted on the plum stock, though it does well on its own, and there appear to be no reasons why it can not be cultivated wherever the plum will flourish. It is a delicious dessert fruit, but so little known that the few which are brought to the city markets are unappreciated. We must add, however, that we have never seen them at any but exorbitant prices. Doubtless, any one who should take a little pains to push them might do well by them. Certainly those who have gardens of their own ought not to neglect so handsome a tree and so delicious a fruit. They are to be treated in the main like the plum, with the same care to avoid the curculio, to which they are subject. For other points see fruit-books.

It is a native of Asia, and one kind grows wild in Siberia. It is a great favorite in China and Japan, where it also grows wild on the mountains, but it attains its greatest excellence in Persia. In the flowery language of that land, the apricots of Iran are called the "Seed of the Sun." Another sort is cultivated for its sweet, nut-like kernel, to which the tree has imparted the excellence usually bestowed on the pulp. The apricot is a favorite in France. It was introduced

into England in the time of Henry VIII., where they now cultivate twenty varieties. In our own country it is cultivated in Delaware and Maryland and upon the banks of the Hudson.

WHOLESOMENESS.

More fault has been found with the plum than with most other common fruits on this score. Possibly one reason is that, with the Damson and the Green Gage, and possibly some other varieties, it is not easy to decide when they are quite ripe, and unripe plums are certainly unwholesome. In English child-literature, sickness from eating plums is one of the favorite modes of punishment for bad boys, especially if they stole the plums. It doubtless is a natural result of the circumstances. Boys, never very discriminating of the ripeness of fruit, would be less so under such circumstances—might even eat an undue quantity to get them more promptly out of sight—*hinc illae lachrymæ;* but is it not a pity to put it all on the "plums?" what a bad fruit, to be sure! On account of this badness perhaps they are counted good as a medicine—hence the "medicinal prunes;" or does drying and exporting and cooking change their character? Certain it is that the "Turkish" prune is considered slightly laxative, and therefore wholesome in cases of constipation; an excellent food in cases of convalescence from fevers, etc. Well, we do not take much stock in the "medicinal" part—a good food when ripe, but most varieties requiring stronger digestive powers than some other fruits. Both kinds of prunes being well ripened and cooked, are easily digested; and plums generally, if well ripened and eaten at meal times with food, would, with most people in ordinary health, prove acceptable. Still it should be noted that the fresh fruit, from its peculiar character, does not admit of so ready mastication as some other fruits, and more care should be taken in this respect. It is not easily divisible, like raspberries, which can be separated without the aid of teeth; nor crisp and easily chewed like the apple, while it is easily swallowed and liable to slip down in masses. It is for this reason not so suitable as many other fruits for children, nor for adults who will not recognize the peculiarity and masticate carefully. Through lack of recognizing this fact, many have supposed that the wholesomeness of the plum is increased by cooking. Like most other fruits, we believe it to be more invigorating and refreshing when eaten uncooked; but since proper mastication is indispensable, or rather since it must be finely divided, so that the gastric juice can have free access to every part, if this process be not accomplished by mastication, it is better to have it secured by

COOKING.

Plums require cooking longer than many other fruits. It will not do to merely scald them, as we do raspberries or currants; they must be cooked until they are tender—and this must be determined by trial—not going beyond, for this will waste the aroma. For the same reason the cooking should be slow and gentle. The English method of "baking" them is very good, putting them into a covered jar in a moderate oven and cooking them slowly until tender, though it may be doubted if it require so long a time as the five or six hours they sometimes allow. Prunes also are very frequently deteriorated by cooking them too furiously, or they stop short of the object to be attained by not cooking them sufficiently. An hour is usually none too long. In making "preserves" (their frequent destination), they are made still more difficult of digestion, since the added sugar must be dissolved out, so we will excuse the preserves. Sweet plums and peaches harmonize well when cut up together, and the same may be said of plums and grapes stewed together.

ECONOMY.

In some seasons the low prices of prunes have induced large consumption among poor people, but the Turkish prune, in spite of low figures, is a costly dish. It does not swell in cooking so much as many other fruits, and it requires much sugar. At ten cents per pound it costs more than dried whortleberries or black raspberries at forty cents per pound. French prunes are cheaper at one-third higher price, but they are not nearly so economical as Zante currants, nor are they so appetizing.

RECIPES.

CANNING PLUMS.—It is not customary to stone or peel plums for cooking or canning. Never cook them in metal, always in earthenware, porcelain-lined utensils, or granite ware. Fill even full of water, cover close and cook gently, until you can pierce them with a straw. Dip them into the cans carefully to avoid breaking them, and seal as you would any other fruit.

PLUM AMBROSIA.—Damson plums may be made up in ambrosia the same as cherries (see PHREN. JOUR. for July); the larger kinds, if not very juicy, may be sliced up and made into ambrosia the same as sliced apples or peaches. But do not undertake to stew them for this purpose, nor put in any juice, since this will be sure to make the dish heavy. It will require care in baking—a steady, gentle heat, and longer cooking than for cherries. Do not try to have it less than three inches deep, and do not permit the juice to run out of the dish.

DRESSING PLUMS.—The more tender plums, and especially those with delicate skins, can be cut up for sauce either by themselves or mixed with peaches or tomatoes. The better way, however, is to eat them without the intervention of knife and spoon.

PLUM PIE.—Cut the fruit in two or more parts, remove the stones, and stew until tender in water sufficient to nearly fill, but not to cover it. Then prepare an oatmeal crust by wetting one pint of "A" oatmeal in one gill of water, fill it up with the fruit, season to taste, and bake until the crust is done, say fifteen or twenty minutes. If you wish more crust, sprinkle the fine oatmeal thickly over the fruit before baking. Another method is to sift the fine dry oatmeal over the pie-dish for an under-crust, place the fruit on this and pour on the juice, baking as above.

PRUNES.—Look over, wash, and put to cook in about twice their measure of water, cook slowly and gently nearly or quite an hour, or until they are readily pierced by a straw. If they are the "Turkish" prunes, they will hardly be palatable without some seasoning or sweetening. If they are the French prunes, of good quality, they may even be too sweet. In that case they may be stewed together, or the French prunes may have added to them an equal part of acid dried apples, or half that amount of fresh rhubarb, or one-fourth part cranberries, so timing them that they will be done about the same time.

JULIA COLMAN.

RECORD OF SCIENTIFIC DISCOVERY.

Condition of Jupiter and Saturn.—Prof. Proctor finds it necessary to defend his views on these planets, they having been attacked by Prof. Vogel, whose researches bearing on the light of Jupiter and Saturn won a prize from the Copenhagen Academy. The attack was based on the evidence that the spectra of bands and lines in those plants were similar to those of our own atmosphere, occasioned by the presence of aqueous vapor. Prof. Proctor argues with force against the conclusion that aqueous vapors constitute the chief envelope of the larger planets. According to the accepted theory of their formation, those planets are much older than the earth, but Prof. Proctor shows, by estimate, they have not yet had time to cool, owing to their enormous bulk. Their lack of density can be best explained by supposing that their condensation is still prevented by internal heat. Such atmospheres as they evidently have would be, unless continually expanded by heat, compressed and solidified by the gravity of such great masses. The cloud-belts present aspects and changes which can be explained best if we believe that they exhibit the surface of up-rustling heated vapors, with cloud-like summits. These clouds and belts bear no relation to the diurnal or annual exposure of the surface to the sun's rays, and hence their changes must be referred to local causes. The outlines of these planets have frequently been noticed as varying from a circular form, and a satellite occulted by the edge of the planet has reappeared briefly, just after concealment; such facts may be readily explained if the surrounding atmosphere is more than 2,000 miles deep, and is subject to great mutations. Finally, the light of the planets is two and one-half times greater than that which pure sand-stone would reflect; hence it seems probable that they produce light. Prof. Proctor thinks that those planets will not be in condition to support life for many millions of years.

Proximity of Mars to the Earth this Year.—This month will be signalized by an unusual occurrence, viz., the planet Mars will during its opposition of the 5th approach within thirty-four millions of miles of our globe, and will be conspicuous for its brightness. Astronomers tell us that the average distance between Mars and the earth at the moment of opposition is about forty-nine millions of miles; if, however, the opposition happens when the planet is as far from the sun as possible, and the earth as near the sun as it can be, they will be separated by a space of sixty-four million miles, and if, on the contrary, the event occurs when the conditions are reversed, the distance between them will be only thirty-four millions,

and the opportunity for observation will be exceptionally favorable. These close oppositions are rare, the motions of the planet and the earth being so related that they recur only at intervals of seventy nine years, though some of the intermediate oppositions, separated by periods of fifteen and seventeen years, are not very greatly inferior. The opposition of September will be one of the best possible, both earth and planet being nearly in their most favorable positions, and the distance between them less than at any time since the summer of 1798. Important observations will be made for the purpose of determining the distance, position, and motions of the planet, and to note its magnitude, form, rotation, surface-markings, and physical constitution. Observations of the opposition of Mars are available for the same purpose as those of a transit of Venus, and some astronomers consider them capable of giving a result hardly, if at all, inferior in certainty and precision.

Recent Researches as to the Structure of the Spinal Cord.—MM. Sappey and Duval have recently published a very important paper as to the structure of the spinal cord in vertebrate animals, and particularly as to the course of the fibers. Up to the present date, microscopic observers have not been able to trace the white columns of the cord through the medulla oblongata and the pons varolii. MM. Sappey and Duval believe that they have finally succeeded in following the fibers from the core to their entrance into the optic thalami and the corpora striata. The reader is aware that the fibers of the cord are divided by anatomists into the two anterior, the two lateral, and the two posterior white columns. The two former decussate with each other throughout the whole length of the cord. This decussation ceases as they enter the medulla oblongata, and they run separate, but parallel, gradually inclining backward until they appear on the posterior face of that body, where they form two slight longitudinal protuberances on the floor of the fourth ventricle. From these protuberances they traverse the pons varolii, enter the crura cerebri, and finally become involved in the structure of the optic thalami. The two lateral columns decussate just below the medulla oblongata, the anterior and posterior columns taking no part in this decussation, which is effected by the giving off from each of successive flattened bands. The most internal layers approximate to the central canal of the cord, deeply grooving the anterior horns of the gray matter, and ultimately, as they ascend, weaving a network over them. After decussating, the fibers ascend parallel to each other on either side of the anterior middle fissure, and form the superficial portion of the pyramidal bodies. not the whole of them. On tracing these fibers upwards, they are found to traverse the pons, and to enter into the structure of the corpora striata. The two posterior columns decussate higher up than the lateral. This decussation is effected by a breaking up of each of the columns into twelve or fifteen fasciculi which cross to the other side, forming the triangular raphé mentioned in anatomical treatises, which separates the anterior internal columns of the pyramidal bodies. In ascending through the pons varolii, these columns send fasciculi to the tubercular quadrigemina. They then form the most outer portions of the cerebral crura and penetrate the optic thalami. With these facts in mind, and remembering that the great nerve of the leg springs from the lateral column of the spinal cord, it is now clear that the corpora striata are specially concerned in movements of the leg, and hence in locomotion. As the great nerve of the arm springs from the same column, it is also evident that movements of the arm are similarly dependent on integrity of function in the corpora striata, which are, as Gall and Spurzheim demonstrated them to be, the great ganglia of voluntary motion. The foregoing statements will not be new to followers of Gall and Spurzheim, and they are detailed only to show how slow medical men have been to accept the great anatomical researches of the founders of Phrenology, and how frequently their statements are verified by physicians and announced as new.

F. G. FAIRFIELD.

Lenses and Blood-Corpuscles.—*To the Editor of the* PHRENOLOGICAL JOURNAL: In the August number of the JOURNAL I find a note from Mr. Phin, impugning certain propositions contained in a little article of mine on the structure of blood-corpuscles. As the main evidence of my statement, that they are simple globular bodies, rests upon direct observation with good objectives, and as the point is practically conceded by German authorities, there is no exception to be taken to the criticism that disk is not a proper term. Any one who has, with good lenses, studied these bodies in motion, will agree, I think, that the general opinion as to their structure is fallacious. The proportions of slide, cover, corpuscle, and mirror, presented in the cut published in the July issue, were not intended to be accurate, since accuracy was impracticable within the limits usually given to a cut, and the only purpose was to present the theory clearly. Mr. Phin can, however, satisfy himself as to the theoretical exactness of the principle he denies, by experimenting a little with convex lenses. Theoretically, although there is a trifling variation in practice, the focal distance of a single convex lens is equal to the diameter of the sphere of which it is a plano-convex section; that of a double convex lens being equal to half the diameter of its sphere. The rest follows naturally. The principle is so simple and well verified that every lad of twelve years old knows it; and I may add that all the optical principles involved in the construction of the compound microscope are perfectly familiar to men but rudimentarily acquainted with science. I have lying by me as I write, Nageli and Schwendener's admira-

ble work, *Der Mikroskop, Theorie und Auwendung Desselben*, a perusal of which will show any one the soundness of my position. As to the experiment he proposes, let me substitute a more conclusive one, that approximately answers the conditions of the problem, in place of the clumsy and inexact boys' play with a glass bulb filled with salt and water. A minute sphere of tinted glass, mounted in balsam, within a deep rubber cell cemented to a slide and covered with an ordinary cover, imitates the conditions of the case with sufficient exactness, while the tint enables the observer to verify the theory I have advanced. On slowly raising the objective, by means of the micrometer adjustment, a tinted ring appears, which is succeeded by a tinted luminous point where the rays cross, and this, again, is succeeded by another ring. Now, measure the distance traversed by the objective in bringing the second ring into view, after the luminous point has been observed at its best, and it will be found to be an equivalent in distance for half the diameter of the pellet. Or, again, view the pellet illuminated by an unprotected gas-jet, and the brilliant point consists of a minute image of the flame.

F. G. FAIRFIELD.

The Phytolacca Electrica, a plant lately discovered in Nicaragua, gives a shock to the hand when one attempts to break off a branch.

Meteorological.—The month of May, this year, was, in some respects, one of the most remarkable in American experience for many years. According to the report of the Chief Signal Officer of the War Department, its most interesting features were:

First. The remarkably high temperature from the 18th to the 24th;

Second. The heavy rain-fall west of the Mississippi and the drought in California; also the light rains in the Lake region, and the forest fires in Michigan and New York;

Third. Injury done to grasshoppers in the West and South-west by cold and rainy weather;

Fourth. The earthquake of Iquique, and the ocean wave resulting therefrom, also similar wave on the 15th on Lake Erie;

Fifth. The aurora of the 28th; and,

Sixth. Tornadoes and hail-storms in New York and New England on the 18th.

Among the more noticeable comments and extracts included in the report are the following:

Wet Bulb Thermometers.—From a series of observations on the accuracy of wet bulb thermometers under different conditions, Messrs. Marriott and Ward deduce the following conclusions as a contribution to hygrometry:

First. The accuracy of the apparatus depends most upon the kind of muslin and the conducting thread leading to the water reservoir; those thermometers having thick muslin read too high and are less sensitive; in calms, all wet bulbs read alike, but when a breeze springs up, thin muslins will drop down a degree in a few seconds, while thick muslins and lamp-wicks require one or two minutes.

Second. The dry and wet bulbs should be of the same make and size—cylindrical bulbs are much preferable to spherical ones; it would be a great advantage if the muslin wrapping could be replaced in any way by a roughening or frosting of the glass bulb.

Third. The open water reservoir should not stand near either bulb, otherwise they would be seriously affected, and the water cup should be covered over, having only a small orifice for the conducting thread; the wet bulb covering should be of very fine muslin or linen and changed once a month or oftener, and during very cold weather the muslin covering should be dispensed with, provided a proper coating of ice can be obtained on the naked bulb.

Fourth. When the muslin covering is to be changed the bulb should be cleaned by washing in dilute sulphuric acid.

An American Substitute for Gum-Arabic.—It is said that the mesquite gum of Western Texas is almost identical with gum-arabic, and, during the past year, has become an article of export, some twelve thousand pounds having been gathered in Bexar county, and as much more between that and the coast. This gum exudes from the stem and branches of the mesquite, a mimosa, several species of which grow in Texas, New Mexico, and Arizona.—*Journal of Microscopy.*

A Tunnel Greater than Hoosac.—Baltimore is constructing the longest tunnel in the country. When completed it will be seven miles long, circular in shape, and twelve feet in diameter. Five miles of the distance is through very hard rock, and the drilling is done by manual labor, powder drills being impracticable in such a small space. The rest of the wall will be bricked. Fifteen shafts have been sunk. The cost is estimated at $3,000,000; about 1,500 men are employed, and the tunnel will probably be completed in three years. The object of the tunnel is to supply the city with water, the present supply having proven inadequate and of wretched quality.

Still Another New Metal.—This metal has been named Lavœsium by its discoverer, M. Prat, in honor of Lavoisier. In color it resembles silver; it is fusible and malleable. Its crystals are colorless, and its distinctive characteristics, according to M. Prat, are—its silver color, the nature of its spectrum, the solubility of its oxide in ammonia, the peculiar color of its combinations with the ferro-cyanide of potassium, and with sulphureted hydrogen. With the spectroscope the metal gives twenty-three lines, several of which coincide with those of copper, whence M. Prat conjectures that copper may contain it.

AGRICULTURAL HINTS.

[The mind is the man. Farming, in the highest sense, is not simply doing the hard work necessary. This can be done by muscle when directed by brains. The true farmer is he who can plan, direct, and control skillfully.]

As this department is one which should contain the most recent gleanings of wisdom and experience, ur readers and friends in the rural districts are invited to send us any items of value to agriculturists in general, and which should have a wide circulation. Due credit will, in every case, be given to the contributor.

More on Hygienic Tilth.—This letter explains itself:

"*Editors Western Rural:*—In your issue of April 14th there is an inquiry from 'J. H. F.,' Hampton, Minn., in reference to green manuring. This is a question of no small importance to the farmers of the West, as green manuring affords a prompt remedy for some of the evils of which our lands complain. I have had some experience in the matter, and will give it for the benefit of others, if it will do any good.

"In this vicinity our soil is a clay loam which packs down pretty hard under the heavy spring rains, when exhausted of its organic matter.

"A neighbor of mine bought a field, a portion of which had been cropped annually until it was pronounced 'worn out.' The ground was hard and lumpy, and had been skinned in sections until no one could undertake to skin it again. He plowed and sowed it, and seeded it to clover. The season proved favorable and he got a little wheat and a good stand of clover.

"I had advised the plowing in of a green crop, but had told him that Western farmers held that 'A bird in the hand was worth two in the bush,' and that none of them would plow under a crop that seemed worth anything, for fear that they could never get it back. He sowed plaster and secured a fine growth, which he cut for hay.

"The second crop was also good and he went to plowing it under. I came along while he was at it, and examining the clover, found it heavily seeded. 'Hold on,' said I, 'you can not afford to plow under all this seed.' Said he: 'You told me that if the crop was good for anything I would take it off, but I made up my mind that it should go under, and here it goes' The result has been that his soil is light and mellow, and he harvested a magnificent crop of corn last fall. His crib is now full."

Value of the Earth-Worm.—The common earth-worm, though apt to be despised and trodden on, is really a useful creature in its way. Mr. Knapp describes it as the natural manurer of the soil, consuming on the surface the softer part of decayed vegetable matters, and conveying downwards the more woody fibers, which there molder and fertilize. They perforate the earth in all directions, thus rendering it permeable by air and water, both indispensable to vegetable life. According to Mr. Darwin's mode of expression, they give a kind of under tillage to the land, performing the same below ground that the spade does above for the garden, and the plow for arable soil. It is, in consequence, chiefly of the natural operations of worms that fields which have been overspread with lime, burnt marl, or cinders, become, in process of time, covered by a finely-divided soil, fitted for the support of vegetation. This result, though usually attributed by farmers to the "working down" of these materials, is really due to the action of earth-worms, as may be seen in the innumerable *casts* of which the initial soil consists. These are obviously produced by the digestive proceedings of the worms, which take into their intestinal canal a large quantity of the soil in which they feed and burrow, and then reject in the form of the so-called casts. "In this manner," says Mr. Darwin, "a field manured with marl has been covered, in the course of eighty years, with a bed of earth averaging thirteen inches in thickness."—*Encyclopedia Britannica.*

Two Good Things.—EDITORS JOURNAL: I have lately learned how to do two things properly, and the knowledge is so valuable that I desire to give the public the benefit of it through the PHRENOLOGICAL JOURNAL. The first is—

How to Build a Cistern.—The main object in building a cistern is to have a plentiful supply of water, and the next is to have that water good. Dig, as for an ordinary cistern, in a round or oval shape, to a depth according to size, of from sixteen to twenty-four feet. Let the sides be trimmed smooth and truly perpendicular, and the bottom hollowed out a foot or fifteen inches, to facilitate cleaning. The sides may be walled either with brick or small flat stones—the latter are preferable—using good mortar, and smoothing well on the inside. The bottom should also be strongly plastered. So far we have a good and durable cistern. But we want the water filtered. Many modes, costly and otherwise, have been practiced; but the best, the easiest, and most economical, is to build a brick wall through the center, laying the bricks flat lengthwise of the wall, one thickness only, and using good lime mortar. This wall must not be plastered, as it is to act as a filter, for which purpose only it is built. The water must be let in on one side and drawn out from the other side. This is an admirable filter, and will keep the water clear and pure for years. If the cistern is a large one, it would be well to build this center wall a little rounding toward the side the water is to come in; as during heavy rains the pressure might be too great for a straight

wall. For a small one, the straight wall is amply strong.

The other good thing is—

How to raise an Osage Fence.—Where our climate is not too severe, the Osage Orange has been proven the best material for a live fence. The great trouble with it, however, as with all live fences, is to get it started with an even thickness along the row—as plants here and there will fail to grow. Hence resort has been had to cutting off at the ground, or to bending down or plashing, to remedy this difficulty. The mode I have lately learned, and which I think is far better than all others—though it may not be new to many—is to allow the new hedge to grow, say three or four years, or until the stems will measure an inch in diameter or more at the ground. Then, early in the spring, cut off all the branches close to the body; clean out the row of all rubbish and all the branches; saw each plant partly off at the ground, and bind it down in the row, and peg it there, following the row until all are cut and neatly pegged to the ground, overlying each other. Many persons have practiced cutting and bending down, but have omitted to trim off the branches, and have had poor success. It is this trimming that insures a growth of new wood all along the line and makes a hedge that a rabbit can not pass through nor a bullock go over. Cultivate well and trim into proper shape annually. P. G.

Stock Water.—How a reserve of stock water may be economically stored up for use during droughts, is an important question for farmers throughout the prairie region of the West. A correspondent of the *Prairie Farmer* offers some suggestions which should enlist attention:

"Two years ago last summer, having, with many others, suffered the inconvenience of a failure of the water supply on my place, in consequence of the long-continued drought, I dug a two-hundred-barrel cistern in my pasture a few feet from a ditch which crossed one corner, cementing on the solid clay, which formed the sides to within two and a half feet of the top, and bricking the balance. I laid a wooden pipe from near the top of the ditch to the cistern, and when the water was running the following spring, by damming the ditch below, it was filled with pure snow water. The same process was repeated last spring, filling up what had been used out the previous summer.

"For the last month my well has been nearly dry, and my house and barn cistern both empty. Without this reserve supply, I should have been in as bad a fix as are a great many other people at this time. The water in this cistern, most of which has been in for two years, is now as pure, bright, and sparkling as when it was first filled. It has been a wonder to me that farmers in sections where reliable wells can not be obtained, have not availed themselves of this method of storing up water. There is no limit to the extent to which such cisterns can be multiplied, furnishing a reserve supply to fall back upon when the ordinary supplies fail."

Cutting Back Young Trees.—We observe that mistakes are still made by some who set out young trees, and who are nevertheless not aware of the importance of reducing the heads to correspond with the unavoidable reduction of the roots in taking up. The trees are set out, and the cutting back is put off till the new leaves are partly out. To do it then will do more harm than good. If not performed before the buds open, it should be entirely omitted. Growth is always checked by pruning when the leaves are opening or expanded. We have seen good trees nearly ruined in this way. If the operation is not already done, let all the leaves and roots remain, and make up for the neglect by keeping the surface of the soil for several feet about the tree constantly mellow, mulching with manure as hot weather approaches, and if the weather should be very hot and dry, daily showering the leaves, branches, and stem. This showering should be regular, not occasional. There is a difference in different kinds of trees as to the amount of injury caused by cutting back too late. Peach trees will withstand the effects of such treatment better than most kinds; apple trees not so well; cherry trees worst of all—we have seen them actually killed by it.—*Country Gentleman.*

Rat-Proof Granary.—The *Inter-Ocean* has the following advice to give: Place posts far enough in the ground to insure the stability of the building without braces, and extending three feet above ground. Reduce the tops of the posts to five inches diameter and place on the top of each a circular piece of inch board twelve inches in diameter, planed on the under side. Now place the sills on the circular pieces, and when the building is completed, tack around each circular piece a strip of tin three and a half inches wide, which will cost in Chicago four or five cents each, and, as will be seen, can be replaced at any time without disturbing the building.

The accounts received of the peach crop in New Jersey are encouraging; and it is estimated that it will reach as high as 18,000,000 or 20,000,000 baskets, and the farmers of the State are highly elated. It is proposed to repeat the experiment of shipping them to Europe this summer.

Reducing the Cost of Washing.—The expense of cleansing the linen of a family is an item which in the course of a year assumes considerable proportions, and in many cases bears heavily upon the income of paterfamilias. Hence any new process which will reduce the cost and produce as good results as the old way, is heartily welcomed by housekeepers. From France, that home of the true *blanchisseur*, comes the good news that the expense of washing may be reduced to an average like this: Five centimes

(one cent) for a pair of drawers, two and a half centimes (half cent) for each shirt, and so on. This is the process: One kilo (two pounds) of soap is reduced with a little water to a sort of pap, which having been slightly warmed, is cooled in forty-five liters (ten gallons) of water, to which is added one spoonful of turpentine oil and two spoonfuls of ammonia; then the mixture is agitated. The water is kept at a temperature which may be borne by the hand. In this solution are introduced the white clothes, and they are left there two hours before washing them in soap, taking care in the meantime to cover the tub. The soapy water may be warmed again and be used once more, but it will be necessary to add half a spoonful of ammonia. Once washed in soap, the clothes are put in warm water and the blue is applied. This process, it is obvious, spares much time, much labor and fuel. On the other hand, it gives to the clothes a whiteness much superior to that obtained by any other method, and the destructive use of the beetle is not necessary to clean the clothes from the impurities which they contain.



MRS. C. FOWLER WELLS, *Proprietor.*
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REVIEWERS' PERSISTENCE IN ERROR--No. 2.

IN our last number we endeavored to show how wide of the truth certain critics wandered in their discussion of Phrenology, because of their taking for granted a statement which has little or no anatomical warrant, so far as its relation to the phrenological distribution of organs is concerned. To the reader who has just entered upon the study of the phrenological system, the grave critic who proceeds to demolish it from the text that it places the animal propensities in the posterior lobes, can but appear in a ludicrous light, since a little investigation would have enlightened them, and saved them from expending time and thought in a fruitless argument.

Dr. Carpenter showed, they tell us, some thirty years ago, that "the first rudiments of brain found in ascending the animal scale, were rudiments of the anterior lobes." This is the leading one of the propositions which have so tremendous an effect when applied to the system of Gall and Spurzheim, in the opinion of the antagonistic reviewers, that it "crumbles into dust." Obviously enough the lower organisms have brains, whose chief functions relate to the preservation of individual life and the perpetuation of species. No one acquainted with the nervous anatomy of the lower animals can deny this. The phrenologist certainly has been one of the first to affirm it, but he has not fallen into the error of assigning to the elementary brain of an earth-worm, or a fish, or frog, or mole, the relation which the anterior lobe of the human brain bears to that cerebral mass.

Neither practical investigation in the structure of the brains of the lower animals, nor logic, sustain the view that in the advancing order of nervous development the cerebrum appears by lobes, first the anterior, then the middle, then the posterior. Were this the case, we would not expect to find a cerebellum in so low an animal as the frog, as we do, and that well defined.

Each animal has a complete nervous system, a brain sufficient for the performance of the functions appertaining to its sphere. If we examine the brain of a frog

we find a clearly-outlined cerebral mass, with a central fissure imparting the hemispherical character. So, too, the brain of small fishes show a cerebrum. An eminent French anatomist, M. Serres, records it as an axiom, that "the encephalon of all vertebral animals is constructed after one uniform type, and with the same elements," and M. Cuvier writes: "The brains of the mammalia have the same parts as that of man."

Both savants overstep the bounds of fact in their assertion of a principle which relates rather to form than to distribution, it being plain that the high mental capacity of man and the multiplex variety of his relations and conduct require a great number of cerebral elements, or nervous centers, while the rabbit, pigeon, or guinea-pig, with a life concerned almost entirely in mere subsistence, requires comparatively few.

The earth-worm is a digesting machine, and its cerebrum consists of scarcely more than an olfactory center, or an organ whose function is that of alimentation.

From the worm up, the cerebral mass increases by the addition of nervous centers, with their related functions, and in accordance with the prominence of some characteristic in an animal, we find a marked development of its corresponding nervous center.

The bee, and fly, and other insects remarkable for their complex eyes and coincident power of vision, have a good part of their brain taken up by a ganglionic mass corresponding with what is known in the human cerebrum as the optic thalami, (Fairfield). The squirrel, whose secretive and providential habi s are well known, has a wide brain, with a marked nervous development in the region we would naturally assign to Cautiousness and Secretiveness. The experiments of Ferrier have shown the correspondence of nervous centers in animals of the same species, and go far to show that the lobular theory can not be applied to the smooth-brain classes. The notion that "the first rudiments of the brain were rudiments of the anterior lobes" seems to us to be due mainly to the impression derived by the early physiologists, from the position of the parts of the brain in the crania of animals low in the scale of development. In these the important parts lie in a line; first the olfactory bulb, next the cerebral mass, then the optic bulbs, and last the cerebellum. With the increase of intelligence the nervous development is chiefly shown by the cerebral mass, which extends both anteriorly and posteriorly, until in mammals, like the seal, bear, cat, and others, the olfactory and optic bulbs are covered by it, and finally in man the cerebellum is completely within its posterior border.

A comparison of the human brain with that of the highest quadrumana, like the dog and ape, shows that the difference consists mainly in the development of the anterior and middle surfaces; in the depth and number of the convolutions. The human brain projects forward in a marked manner, and is characterized by a special elevation, thus indicating the possession of nervous and mental qualities unknown to the quadrumana. They who are familiar with different species of dogs, know that the intelligent greyhound and St. Bernard not only possess more brain than the ferocious bull-dog or mongrel, but that it gives to their heads a superior elevation and conspicuous signs of intelligence. The broad head of the bull-dog indicates a cerebrum correspondingly broad, and the large propensitive organs which are salient enough in its disposition. The St. Bernard

may have a brain equally broad, but its greater development in the upper and forward parts supplies qualities which offset, to a degree, the influence of the basilar organs, and contribute to its well-known reputation for sagacity and gentleness.

The writer in the *Church Quarterly Review* thus expresses himself in one place: "For the dependence of memory on the integrity of the material substance of the brain, there is abundant evidence, though but little success has yet attended the efforts of physiologists or physicians to connect it with particular parts of the cerebral mass." Now much of this "abundant evidence" can be found in the recorded cases of the disease known as *aphasia*, wherein the lapse of memory relates to the use of suitable words to express a patient's thought.

The thing in itself is remembered, but its name may not be recalled. The disease or derangement, therefore, affects the organ of verbal memory, and physiologists, not phrenologists, have pretty well agreed on the location of the organ or center which has to do with this verbal memory, viz., in the third frontal convolution of the left cerebral hemisphere. Some are disposed to associate a center with a similar function in the right cerebral lobe.

Furthermore, the experiments of Flourens, Vulpian, Goltz, Hitzig, Ferrier, and others, who have had much to do with supplying this "abundant evidence" the reviewer speaks of, certainly indicate pretty clearly how the loss of a given part of the cerebrum affects the conduct of an animal.

On the whole, the position of these gentlemen who have reviewed Phrenology lately, is very much like that of the "anti-theists" of the day, who reason from the assumption that social morality is an outgrowth of experience, and not due to the impression of religious belief upon human conduct, and has no rule or standard of authority to which the quality of acts may be referred, and yet, in their reasoning, call one way of living mean and hateful, and another way of living noble, blessed, admirable, all the time apparently oblivious of their flagrant inconsistency. (See Mallock in *Contemporary Review* for January, 1877).

The reviewer, for instance, in discussing "unconscious cerebration," is led to say: "Anyhow, the extension to the brain of the principle of reflex action—now well established in regard to the lower centers of the nervous system—implies that the reaction of the cerebral substance from the impression made on it by the organs of sense may become at once the cause of appropriate bodily movements, which will, of course, be the expression of thought and feeling, if there is thought and feeling to express, but which may also occur independently of these, when, by diversion of the attention, the appropriate mental state has not been aroused." And a little further on, "But admitting as a matter of fact that cerebral changes are followed by mental states, there seems to be quite as much evidence for attributing our ideas and memory of words to the working of the cells and fibers in the anterior region of the brain, which represent movements of articulation as in ascribing our notion of the visible picture of nature before us to the molecular changes transmitted to another part of the brain lying farther back from the optical image formed in the eye."

The writer here goes so far in his inferences as to trend upon the borders of the coldest materialism, although in the same connection disclaiming no part in such councils, and apparently forgetful that his admissions embody a practical confirmation of the organic constitution of the brain.

THE CONFLICTS OF LABOR AND CAPITAL.

IS it at all strange that the men whose intelligence and muscle perform the practical labor in the operating of a railroad should combine against the directors and officials thereof, when the latter, in the exercise of arbitrary power, cut down the wages of the former, apparently disdaining an inquiry into the justice of such a measure, and when the asserted occasion for it, financial disability, is really due to directoral mismanagement or official cupidity?

There is certainly some warrant for the protest of the engineers, the firemen, the brakemen, whose vocations are perilous to life and limb, and require them to face every atmospheric condition, however inclement, when they see the clerk or official enjoying a position of leisurely ease in a luxuriously-appointed office, with a salary so large that it enables him to maintain a princely domestic establishment, while they who bear the burden and wear of the railway business must be promptly and regularly at their places day and night, and be contented with the wages assigned them, whether adequate or not to the comfortable maintenance of their families.

Is it at all strange that there should be uprisings—or revolts, if you will—on the part of the workingmen, and menaces which strike terror to the hearts of them who live in luxury, and bear themselves superbly on account of their wealth, when through newspaper and books, by the demagogue and the patriot, the doctrine of equal rights is loudly proclaimed, and the very grandeur of our national prestige is founded on the declaration, "All men are born free and equal?"

When these workingmen see this principle practically ignored by the master-employer in the shop and the factory, on the ship and the railway, and a class strong and imperious, because of its wealth, contemptuously regarding the poor artisan and laborer, their demand for justice can not be deemed unreasonable.

When capital imposes heavy burdens, grievous to be borne, upon the broad shoulders of labor, has not labor a right to remonstrate? Has not labor, in this "glorious free land," a right to question the nature of the work offered for its performance? Can wealth dictate? and must poverty always submit?

The reasonable answers to these questions are obvious enough.

We are not counselors of violence. We have no sympathy for the disorderly acts of an excited mob. We believe in the majesty of the law, and would have it properly and promptly asserted in every lawless movement, for when anarchy prevails, the original motive of the rising is lost in the indiscriminate conduct of a reckless mob, and wholesale violence is committed.

As American society at large is constituted, especially at the present time, the workers in no important branch of industry can organize and put in operation a strike without finding themselves reinforced and embarrassed by an eager throng of the shiftless and idle, who are ever on the watch for an opportunity to fill their stomachs and pockets with the property of others. The late extensive revolt of railroad employés is a marked exemplification of this; the grave complications and terrible disasters to life and property arose from the part taken in the strike by thousands of ruffian vagabonds. This phase of a labor movement against the exactions of capital attaches a special responsibility to the actors in it, and should compel the utmost deliberation for the sake of their own best interests. They may disclaim affiliation with

the rabble, but the law-abiding citizen, seeing the physical and moral support given by the mob passively accepted by the strikers, feels compelled to treat both classes as making common cause.

Treating the matter from the side of right reason, the conduct of those men who demand higher wages is not altogether above reproach, in that they ignore the right of other men to accept the wages which they refuse. They can not plead ignorance of duty, or want of intelligence. They know clearly and certainly that a man can, if he choose, decline to accept the money which provides him with bread, and that he sets at naught the simplest principles of right and duty when he interferes with others who are willing to accept that very money for their labor.

A manly, open protest by those who deem themselves oppressed we can not but admire; but conduct of the dog-in-the-manger sort is only deserving of reprobation. If we stop for a few moments to consider the amount of evil wrought in this last hostile movement of labor, through the stoppage of transportation and the supplies necessary for mines, factories, mercantile houses, and the general population, to say nothing of the tremendous waste of property and the terrible destruction of human life which it has indirectly occasioned, we can not repress a thrill of indignation, that intelligent men should precipitate so rash a measure, particularly when the dire consequences of their act must come home to them eventually.

Let the workingmen who are unjustly treated, counsel together for relief; let them present a clear statement of their grievances to the proper persons, then to the public, whose sentiment and sympathy are usually, if not always, with them, and in most cases such a course would bring about an adjustment of the matter of complaint. Scarcely a railroad or manufacturing corporation exists which would not consider the deliberate and earnest remonstrance of its faithful employés against any condition or measure which the latter have, by general consent, declared unfair or oppressive.

ONE MAN SATISFIED.

ONE bright and beautiful morning in July last, we met with a strange phenomenon—a man who says he is thoroughly satisfied with life in all its phases. And to emphasize this opinion of his, he enthusiastically declares that if he could enter the spirit world as if he never had been born, yet knew precisely what he knows now of earth, having lived upon it fifty-seven years, and were consulted by the Creator on the subject, and if it were proposed to him to be born into life on earth to live sixty years, and the question were left to his choice in all respects, he would say, "I will be born in the nineteenth century, in 1820." If questioned as to what part of the world he would be born in, he would say, "In the United States of America." If asked in what part of the United States, he would instantly reply, "Connecticut." If asked what part of the State, his reply would be, "In New London County."

"No other time since the world began has there been such a time in which to be born and live as the nineteenth century. The civilization of past ages has been working out results to make possible the steamboat, the magnetic telegraph, photography, the power loom, the sewing-machine, shorthand writing, railroads, the lightning printing press, and all the wonderful achievements which have culminated in the United States since this century began. I would not have come into life earlier than I did, because the highest and best conditions of

the country had not been attained. Our fathers had subdued the wilderness of the continent, and made it to be a desirable abode for men; they had established a free government with few blemishes; they had fought the battle against the despotisms of the old world and won the victory; they had achieved for themselves and their children an inheritance which made the civilization and the liberty of the day possible; and during this present century and in this precious country, under these blessed auspices, men have the highest and best opportunities for individual development and culture, for the enjoyment of the largest freedom for the largest number, and the general morality which makes life desirable.

"Whoever is living a hundred years hence will find this country so greatly changed that one might almost as well live in China. The rich will have become richer and the poor poorer; population will have increased so as to make the country crowded. I am entirely satisfied with my life. I have had one aim in it, namely, always to do the best I possibly could; to aim at the right under all circumstances; and, though I occasionally miss it, my aim is honest and my conscience approves my efforts. I hope there is a life to come; I expect it; and if the future life is half as good as this life has been to me, I shall be satisfied. I am satisfied with this; I hope to be satisfied with the future. I would not change, if I had my life to live over again, one phase of it. I might use more wisely some of my opportunities, but the surroundings which I have had have been the best, and I would be willing to go over it, and I would not ask to have any phase of it altered to accommodate me. If my experience would enable me to make better use of my opportunities than I have done in the past, that would enhance my happiness so much the more. Here I am, thanking God for what I have had the opportunity for knowing, and doing, and being; rejoicing in the good which life has yielded to me, and, as I have said, I shall be satisfied if the world to come is half as good as this."

BENEFACTORS AND BENEFACTIONS.

ANY contribution made by wealth for the promotion of an institution which has for its object the improvement of society is deserving of approval, but the measure of our approval is, or should be, graduated by the appropriateness of the contribution. Everything in human conduct has its rational side, says the philosopher, yet in the department of human conduct which relates to benevolence, it seems that society by common consent has waived its right to criticisim, and however irrational may be the bestowment of a gift, praises are accorded the giver on all sides. To be sure, the pæan of adulation is proportioned to the size of the contribution.

Prof. Huxley remarked to an English audience, shortly after his visit to America, that the American people were a nation of benefactors, so many gifts and contributions toward educational and charitable objects had been brought to his notice during his short stay in the United States. The learned physiologist hadn't time, of course, to consider the merits of these several expressions of liberality on the part of wealth; he could only be informed that such a man had endowed this or that college with a certain sum of money, that another had founded this hospital, that another had given of his millions to erect that grand church edifice, etc. Had he inquired carefully with regard to these "monuments," he would probably have found that some of them were quite unnecessary, some unsuitably organized, and some altogether inadequate in their equip-

ment for the practical realization of the object entertained by their founder. Had he taken the time to survey thoroughly the field of American beneficence, he would have found that many of the gifts of wealth proceed from motives largely colored by selfishness, and insufficiently enlightened with respect to the real wants of the community; that some men are chiefly desirous to perpetuate their names, and think that in founding a seat of learning or a church edifice, they will reap an eternal meed of gratitude. Such as these do not consider the wants of institutions already well established, and performing an excellent work, and in most cases they but cause to be started an undertaking which early shows weakness because the money contributed for it has scarcely been more than sufficient to erect the buildings.

We could name several creations of this sort whose beginnings were trumpeted throughout the country, but which are now scarcely alive, and the large expenditure of money and labor on their behalf practically wasted. The Pennikese Island Scientific School, for instance.

If the men and women of wealth who have in the mind the application of some part of their surplus money to an object which, according to their desire, shall be a means of social benefit, would carefully inquire into the wants of the community, they would not, if they make their donations in life, as should be generally the case, be mortified by the spectacle of the waste of their money. Such inquiry would reveal to them the utility of old institutions and their needs. We could name a dozen admirable establishments, educational and eleemosynary, whose several work would be most profitably quickened by an endowment of a quarter of the sum necessary to erect the buildings of a new institution. One's commonsense needs no pricking up to appreciate the propriety of coming to the relief of an old and tried college in a time of embarrassment. At this hour there are several institutions of learning which, like the University of New York, are crippled by the great depression in what, but a short while ago, were deemed the best railway and banking securities, and the suspension of any one of these institutions would be a serious loss to American society.

So, too, there are a dozen missionary and reformatory societies which need the substantial encouragement of money aid for the earnest and thorough promotion of their different enterprises. No past time in our history has witnessed so much activity and effort for the help and education of the masses as are now in exercise notwithstanding the 'hard times.' The Phrenological Institute has been kept in motion for years, affording instruction in the most valuable of human interests altogether by the enterprise and coöperation of a few self-sacrificing persons. Had its trustees the means to adapt its usefulness to the needs of the public, this Institute would at once take an important position among the educational and reformatory movements of the land, and command the respect of all classes. The moneyed class is generous beyond precedent, and it only needs enlightenment with regard to the best methods of exercising its generosity to realize its expectations in the accomplishment of good, and in gratifying its desire for praise by the community and gratitude from the beneficiaries.

NOW FOR OCTOBER. — At the present writing (the last of July) the Summer Session of the Institute is in progress, and though the attendance is not very large, yet the students have intelligence, earnest-

ness, and that talent which means success. Our Autumn Session will be opened on the 6th day of October, and will continue six weeks. All who have a desire for information, whether they contemplate being students in the Course or not, can obtain a circular explaining the work of the Institute, and all the particulars that relate to the courses of instruction. We hope to have a large student-list in the fall; and since many kinds of business are suffering from the dullness of the times, those who have a little money in hand and six weeks of time, may avail themselves of the opportunity to learn a profession by which they may attain success and reputation, or qualify themselves more fully for any business which they may have chosen. For circulars please address S. R. WELLS & Co., 737 Broadway, New York.

Our Mentorial Bureau.

[In this Department will be noticed such matters as are of interest to correspondents and to the general reader. Contributions for "What They Say" should be brief, pointed, and creamy, to secure publication.]

To Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY *will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.*

IF AN INQUIRY FAIL TO RECEIVE ATTENTION *within two months, the correspondent should repeat it; if not then published, the inquirer may conclude that an answer is withheld, for good reasons, by the editor.*

WE CANNOT UNDERTAKE TO RETURN UNAVAILABLE *contributions unless the necessary postage is provided by the writers. In all cases, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage—stamps being preferred. Anonymous letters will not be considered.*

PHRENOLOGY AND EVOLUTION.—E. B. W.—There may be little or no conflict between the principles of Phrenology and of Evolution, as you say, but it is certain that the writers on Phrenology have not sought to furnish data in support of the latter. They have aimed to present the doctrine of Phrenology clearly and fairly, so far as their investigations have extended. Phrenology recognizes the orderly development of the nervous system in animal life, which presents an analogy to the doctrines set forth by the evolutionists. We, however, do not entertain the opinion that Phrenology confirms Evolution, the latter being, with all its fascinating probabilities, an undemonstrated theory as yet.

GOITRE AND DIET. — The abnormal growth known as goitre indicates an unhealthy condition of the blood, induced, in most cases, by some irregularity or impropriety in the diet. Dr. Good states that the prevalence of this disorder among the Swiss and Alpine people was "ascribed by some to the use of snow water; by others to the use of water impregnated with calcareous earth; both of which opinions are entirely without foundation." A more plausible theory is that it is induced by dampness in the atmosphere, and the foul and wretched habits of the people. In some cases it is due to transmitted or constitutional taint. We would advise you to render your diet as pure as possible. In other words, free from stimulating or irritating influences. In the treatment of goitre manipulations with water are of service, and the compress might be kept on nearly all the time, with cold changes, if there be heat in the tumor. Your tendency to hungry mania is due to former habits of eating, we think. Old practices can not be thoroughly eradicated in a short space of time; they will, every now and then, assert their presence, to the mortification of the person.

PERSISTENT CHILD.—Educate the boy in the line of his gifts. Of course give him the opportunities necessary for a good English training. Reason with him; show him the necessity of education to enable him to carry out his hopes and wishes. Assist him with advice and direction in the line of his peculiar bent. Gentleness and sympathy will usually win upon a child of that character, and secure his coöperation.

HAIR TURNING GRAY.—X. Y. Z.—Two or three causes might be assigned for this disagreeable appearance, among which constitutional influences and ill-health are the chief. If the

system be well nourished, the hair has a good chance for normal growth. If the body be weak and unduly sustained the hair sympathizes, and may become thin or gray. Dissipation is one of the prominent causes of the premature graying of hair. People who do not take rest enough; who eat stimulating, exciting food, and drink improper beverages, or go to exciting social amusements, waste their energies and lose physical vigor.

A LIGHT MERINO GARMENT is serviceable for summer use next the skin. Linen is also refreshing in very warm weather, but for general wear in the summer we would advise thin merino.

SORE EYES.—Be careful with regard to your diet; avoid sugar, butter, and other highly carbonized articles. Eat plenty of fruit, so as to purify the system. Use a cold water bandage on the eyes—not pressed upon them closely, so as to give annoyance. It would be well for you to submit the case to some good ophthalmic physician. A trouble of this kind should not be treated lightly.

OIL STOVES.—Oil stoves are exceedingly convenient for the use of a family of moderate size; in fact, for the use of any family whose management of the kitchen is economical. To avoid any disagreeable consequences in the way of escaped gas or the products of combustion, it would be well to place such a stove while in use in the chimney opening. We have used oil stoves with no disagreeable effects in that way. If one has not a grate or chimney opening (nowadays too many houses are built improperly, their chimneys being small and furnishing to rooms only a small opening for a stove-pipe), a small pipe can be used to collect the smoke and gas and discharge it through the chimney flue. The oil stove should not be used in the center of a room for cooking or heating purposes.

HUMAN PROGRESS. — *Ques.* Are all races susceptible of the same development?—G. A. *Ans.* No, for the reason that they differ in organization. Development necessarily depends upon organization.

THE ENDLESS SQUIRREL QUESTION.—A correspondent takes us to task for our late answer to the old question of the squirrel and the tree, and says: "The man can not pass around the squirrel as long as they keep on opposite sides of the tree; and if the sun were to move with the earth so that it would always shine on one side of it, I hardly think you would claim that the earth passed around the sun."

Ans. It is precisely what we do claim. Suppose the sun to travel in an orbit say 1,000,000 miles in diameter, and the earth to make its circuit around the orbit of the sun in an orbit of its own 100,000,000 miles in diameter, it would make no difference in what part of his orbit the sun might be, whether it traveled around its orbit in just the same time that the earth required to make the circuit of its orbit, and the sun kept one side turned all the time toward the earth; the earth would have passed quite around every part and parcel of the sun and the orbit in which it moved just as really as if the sun had been in the center of the earth's orbit and also of its own, and had not revolved on its axis at all.

Place a house in the center of a hundred-acre lot and make a road around the lot and drive a horse around the farm, house and all, and it will make no difference whether the owner stand still in the center of his house and keep his face toward the team turning on his center as the team travels, or whether he walks around the outside of the house either on the side next the team or on the opposite side of the house. The road incloses the hundred acres; the house, man, or squirrel occupy the center of the plat, and the team travels around everything within the hundred acres whether it be stationary or moving, and it does not matter in what direction it may move.

What They Say.

"RESPONSIBILITY IN PARENTAGE."—The Science Tract which contains the discourse by the Rev. S. H. Platt, on this topic we have read with much interest, and we deem it so worthy of consideration that we can not refrain from offering a few remarks on the subject. Mr. Platt has struck the right chord and should strike again and again, for we think the responsibilities attending parentage are of such grave import, that not only parents should be called upon to reflect upon their course of action, but those who have not as yet assumed the responsibilities of married life should be made to pause and ask themselves if they are fully prepared, and feel the weight of the responsibilities accompanying the marriage vow.

The argument of Mr. Platt is sound and truthful, and it would be well for fallen and suffering humanity to heed the timely and Christian warning, and profit thereby. We have only to look around us and bring into requisition the reasoning faculties, as we listen to the voice of nature, to be convinced of all the truths that are set forth in that tract. Man, as the noblest of the works of creation, was made to glorify the God who created him, not only in word, but in act and deed, and as he has been endowed with reasoning powers, it is his duty to strive to improve, not only the mental, but also the moral

and physical powers as well, and thus to rise higher and higher in the scale of existence. I hold that each individual is held responsible for the manner in which he uses his faculties, and happy will he be who, knowing his duty, has fully come up to the work. Can any one plead ignorance in this age of the world, ignorance of paternal duty, of the laws of health, etc., when the means of acquiring knowledge are so cheap? Surely not. We argue that parents are not only responsible for the moral and spiritual training of their children, but for the physical as well. Is not the health of children of as much importance, and should it not receive as much attention as their education? Nay, more, for the one has direct influence over the other, and a child's progress and its success in life hang upon the degree of health it enjoys. It is by living in violation of the laws of health that brings upon the human family the sufferings endured; thus are they, to a great extent, self-created, brought about by carelessness as well as transmitted to children that rise up to establish their parents' shame. There is a responsibility in parentage, broader and deeper than the ocean, the great emblem of eternity, and it reaches as high as heaven's dome. We hold there is no sin of deeper dye than that of bringing into the world creatures whose lives are careers of misery and suffering to themselves, as well as a hinderance to others. The car of civilization is impeded in its progress, and groans beneath its load of maimed and halt, and lame, and blind, its lunatics, paupers, and criminals. Asylums, jails, infirmaries, etc., must be built to accommodate these, entailing vast expenditures of time and money. Now, why is all this? What is it but sin? It is true that the sentence of death can not be revoked, but there is much sin, suffering, and expense that may be reduced if the people of this nation would but turn their earnest attention to social reform. We think if parents did their duty toward their children there would be fewer suicides in the world. How many a poor girl is turned out upon this cold world with no means of support save by drudgery; uneducated, she goes forth, or is thrust forth from the parental roof, with little to look forward to, and little to hope for, and to escape their hard lot, many find rest in a suicide's grave. Who is responsible? We think that they who gave her being are, for did not they, in taking the marriage vow, acknowledge their ability to meet all of its responsibilities? Show me a healthy family, and I will show you one that is orderly, well-regulated, and happy, and one whose record will never be stained by crime, and the mother of such a family, you may rest assured, is careful about the food she sets before her children; she has their welfare at heart, feels her responsibility, and well for them it is that she does; and her care is rewarded by raising up cheerful, happy, and useful men and women, who are blessings and ornaments to society.

A. J. MURPHY.

CULTIVATING COMBATIVENESS. — A Philadelphia correspondent speaks of his experience in attempting to apply what he deemed in accordance with phrenological principles to his own nature. He says: "A few years ago I looked upon Phrenology as a sort of fanaticism, but now I regard it as the only system through which the highest intellectual development can be obtained. I feel like uttering George Combe's exclamation, 'Were I this moment offered the wealth of India, on condition of phrenology being blotted out from my mind forever, I would scorn the gift.' About a year ago I had a phrenological examination, and discovered that my weakness was owing mainly to want of development in the organs of Combativeness and Self-esteem, while Cautiousness was excessive. I was very timid, lacked determination, could not defend my own rights, and felt as if I were a stumbling-block in the world. I had, however, a good degree of Firmness, and so I struck out boldly, and endeavored to cultivate my weak organs, and think that I have succeeded very satisfactorily." He adopted a novel method of cultivating Combativeness, as will be seen by the following quotation from his letter: "I studied the phrenological definition of Combativeness, and found that it advised one to face danger rather than shrink from it. I looked around to see whom I should strike first, and not being a pugilist, I did not think it well to operate in that direction. I noticed, however, that in my walking to and from school, I was inclined to turn out for every person I met. Then I called my reasoning organs into play, and they told me that I had as much right on the public thoroughfare as others, and should not turn out any more for them than they for me. So having made up my mind one morning to pursue a direct course, I walked to school, determined not to turn out for anybody. I walked on in a direct line, looking neither to the right nor to the left, but had not walked more than half a square when I came into collision with a man who was walking very rapidly. The result was, I lost my balance. Recovering myself I looked around, but the man disappeared, and I was master of the situation. I again started on my course, but now my Cautiousness being awakened, led me to proceed with some care. From that time I practiced this sort of walking, and people seemed to become familiar with my way or disposition, and turned out pretty freely. I think that my organs of Combativeness and Self-esteem have been developed considerably. I do not altogether advise other people to follow my lead in this matter,

but it really seems to me that my force of character has been much brought out by it." W. S.

PHONOGRAPHY AS AN AID TO IMPROVEMENT.—One of the chief aims of mankind in this enlightened age is, or should be, self-improvement. All the faculties of the mind, as well as the different parts of the physical structure, can be improved and strengthened by judicious training and exercise. We may not derive much benefit from our labors in this direction in a month, or in six months, or perhaps not even in a year, but the process, though slow, is none the less sure.

Our minds will become strengthened by every hour of study, and by and by we shall find that we are fast gaining ascendency over our weaknesses.

Among the different studies necessary in strengthening the faculties of the brain, the study and practice of the art of Phonography stands pre-eminent. Not only does it strengthen the general understanding, filling the mind, if the practice be general, with a variety of useful knowledge, but it has its influence on separate and distinct faculties of the mind. The organ of Form for instance, is strengthened by continual exercise in the endeavor to remember the configuration of the phonographic characters, and the efforts to read them.

The organ of Language is perhaps more affected by this study than by any other. The burning words of eloquence as they fall from the speaker's lips, are mirrored, as it were, on the mind of the reporter as he follows with his brain and hand the words of the orator. Not only may the phonographer in time become a ready talker, but fluent, using the best words and expressions to convey his ideas. He also becomes acquainted with the correct pronunciation of words.

This useful study is also a great aid in cultivating many other faculties, as Eventuality, Imitation, Ideality, Continuity, and others. Indeed, one might write all day concerning the benefits to be derived from a study of this useful art, not only as an aid to self-improvement, but also in the promotion of the happiness of others, in extending the arts and sciences, and in a great saving of time and disseminating general knowledge. W. H. H.

DISCOVERING OLD HYGIENIC TRUTHS.—I have been very much amused by reading a number of articles in relation to water-treatment of fevers, or similar matters, which have, within a short time, appeared in various newspapers and magazines, some of them original productions, and some of them old, but all favorable to the water-cure system, and all treating the subject as if the great natural principles at which they are so much astonished, had been lately discovered. One of these articles was a copy of a letter written by a man in one of the Southern States, explaining his mode of treatment of fevers, and which was published many years ago in the "Hydropathic Encyclopedia," one of the best books published by your house. Another was the article entitled "The Eve of a New Departure," which was copied, in part, from the Cincinnati *Medical News* by the PHRENOLOGICAL JOURNAL, with an appropriate introduction.

The production of such old and established truths, as facts, not before known to the writers, at this late day, is irresistibly suggestive of Rip Van Winkle. But this general waking-up is better late than never, and if it is beginning to occur now, far be it from my purpose to attempt to discourage it. It is the usual fate of reformers, who advance any great and startling truth, to be considered lunatics by the world, and after they die, or are about ready to die, and the increasing intelligence of the people has enabled them to see sound sense in the teachings, which when first promulgated were regarded with distrust and ridicule, then some other person steps in and "discovers" the same wonderful fact, and makes a great flourish. But this is an excellent verification of the saying, "Truth is mighty and will prevail." F. G.

WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

HE who multiplieth words will likely come to sin.

THE atmosphere of meekness mellows the unripe fruit of human pride and haughtiness.

ADMIT no guest into your soul that the faithful watch-dog in your bosom barks at.

SACRIFICE thy will for others, that they may be disposed to sacrifice their wills for thee.—*Talmud.*

GO not to your doctor for every ail, nor to your lawyer for every quarrel, nor to your pitcher for every thirst.—*Spanish Proverb.*

THIS span of life was lent for lofty duties, not for selfishness; not to be whiled away for aimless dreams, but to improve ourselves, and serve mankind.

THOUGHTFULNESS for the comfort of those about us, a pleasant smile, a kind word—these are the ingredients of which good manners are chiefly composed.

SOME men are like pyramids—very broad where they touch the ground, but grow narrower as they reach the sky. Observe their heads; they are correspondingly pyramidal.

ALL brave men love; for he only is brave who has affections to fight for, whether in the daily battle of life or in physical contests.—HAWTHORNE.

THEY are poor that have lost nothing; they are poorer far who, losing, have forgotten; they most poor of all, who lose and wish they *might* forget.—JEAN INGELOW.

MANY a man thinks it's virtue that keeps him from turning rascal, when it is only a full stomach. One should be grateful, and not mistake potatoes for principles.

TIME and pains will do anything. This world is given as the prize for the men in earnest, and that which is true of this world is truer still of the world to come.—F. W. ROBERTSON.

PATIENCE is always crowned with success. This rule is without an exception. It may not be a splendid success, but patience never takes anything in hand that it does not succeed with at least in some form.

How many troubles might mankind be spared if they would stop to hear each other's explanations! How many ailments, both of body and soul, would be cured if explanations only came more frequently and freely!

IT requires some talent and some generosity to find out talent and generosity in others, though nothing but self-conceit and malice are needed to discover or to imagine faults. It is much easier for an ill-natured man than for a good-natured man to be smart and witty.—REV. DR. SHARPE.

MIRTH.

"A little nonsense now and then,
Is relished by the wisest men."

THE LATEST.—Blue glass worn in the crown of the hat is said to develop brains in the head beneath.

IT was the shrewd remark of an old Florentine that economy does not consist only in saving and sparing, but also in using everything when there is need for it.

ONE of the Southern papers tells of a man whose life was saved by a plug of tobacco carried in his pocket. A pistol-bullet fired at him lodged in the tobacco, and the man was unharmed. Moral: If you *must* use tobacco, don't take it out of your pocket.

"WHY, Eliza Mary, I aint seen yer for I don't know 'ow long!" "No, Mrs. Jenkins, you aint. I've been that ill I don't seem able to get well at all!" "But 'aven't you taken any remedy?" "No, indeed, Mrs. Jenkins, but I've taken a power of physic."

OLD Dr. Sam Johnson knew what he was talking about when, in his dictionary, he put this definition: "Network—anything reticulated or decussated at equal distances, with interstices between the intersections."

A NEW YORK professional man returning to his office one day, after a substantial lunch, said to his assistant, "Mr. Peetkin, the world looks different to a man when he has three inches of rum in him." "Yes," replied the junior, without a moment's hesitation, "and he looks different to the world."

MAKE sense of this: "Lord Palmerston then entered upon his head, a white hat upon his feet, large and well-polished boots upon his brow, a dark cloud in his hand, his faithful walking-stick in his eye, a menacing glare saying nothing."

"Is there an opening here for an intellectual writer?" said a very red-faced youth with the cork of a bottle sticking out of his breast pocket. The editor, with much dignity, took the young man's intellect in and said: "An opening? yes, sir; a kind and considerate carpenter, foreseeing your visit, left an opening for you. Turn the knob to the right."

"YOU jist ought to have been over to our house last night!" shouted one small boy to another on the Campus Martius, yesterday. "Why—making pictures?" inquired the other. "Naut much! Hump! No, sir; our folks went away, and we had pop corn, two kinds of sweetened water, milk and camphor, drew the dog around in the table cloth, and the hired girl told us eight ghost stories."

FOREWARNED.—"Who in the mischief has ordered such boots as that?" casually asked a young man of his shoemaker, pointing to a colossal pair of No. 9 mud-smashers, with inch-soles, and toes rounded off like the bow of the Brooklyn ferry-boat. "Them? Oh, them 's for Mr. ——; he said as he expected to do some heavy kickin' in a day or two, he had 'em made a purpose." The young man turned pale as he recognized the name of his dulcina's father, who had peremptorily ordered him off the front stoop a few nights before.

AN elderly gentleman, accustomed to indulge, entered the room of a certain inn, where sat a grave friend by the fire. Lifting a pair of green spectacles upon his forehead, rubbing his inflamed eyes, and calling for hot brandy and water, he complained that "his eyes were getting weaker and weaker, and that even spectacles didn't seem to do them any good." "I'll tell thee, friend," replied the Quaker, "what I think. If thee was to wear thy spectacles over *thy mouth* for a few months, thy *eyes* would get round again."

Library.

In this department we give short reviews of such NEW BOOKS *as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor us with their recent publications, especially those related in any way to mental or physiological science.*

A MANUAL OF THE ANTIQUITY OF MAN. By J. P. Maclean, A.B. 12mo, cloth, pp. 159. Price $1.00.

As the title indicates, this volume is an attempt to present in synoptical form the evidences geological, archæological, historical, and physiological, bearing on man's existence upon the earth. He adopts the view of a prehistoric rudimentary condition from which man slowly emerged by a process of intellectual and moral development, which view his array of data appears to warrant, although some of them, like the fossil crania of Meanderthal and Mentone, admit of variant opinions. The book is neatly illustrated with portraits of scientists, and views of interesting human relics which investigation has brought to light.

FRUIT AND BREAD. A Scientific Diet. By Gustave Schlickeysen. Translated from the German, by M. L. Holbrook, M D., author of "Eating for Strength," etc., with an Appendix. Illustrated. 12mo, pp. 227. Price $1.25. New York: M. L. Holbrook & Company.

Since the publicatian of Sylvester Graham's powerful treatise on vegetable food, nothing has appeared which can be said to exceed it as an argument against the use of flesh meat. Although many volumes have been produced by hygienists, and some of them are quite admirable as popular expositions of dietetic fact and philosophy, yet they do little more than repeat the teaching which is to be found in "The Science of Human Life."

The hygienic movement, in its progress toward eschewing the flesh of animals as food, has shown no little activity in Germany of late years, and several writers of importance have given their pens to its maintenance. Among these may be mentioned Baltzer, of Nordhausen, Theodore Hahn, and the author of the volume above entitled. Dr. Holbrook has shown a good discretion in selecting this as a fit subject for translation; and while it furnishes in a clear and attractive form a good quantity of desirable information relating to evidence in favor of the farinaceæ and other vegetables as man's proper food, it also gives the reader some clew to the state of dietetic reform among the German people.

The author pursues an orderly course in the discussion of this topic. First, he reviews the "anthropological argument," or zoological side of the question; next he considers the physiological side; next and last the dietetic. In the course of the last subdivision, he says, very truthfully: "The modern kitchen has thus perverted the natural appetite and enfeebled the natural powers. . . . . Only through its aid can the flesh of animals be rendered palatable." Some excellent suggestions are supplied with reference to the care and preparation of vegetable substances—grains, fruits, etc., and a *resumé* of the authorities quoted is appended.

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PHRENOLOGICAL JOURNAL



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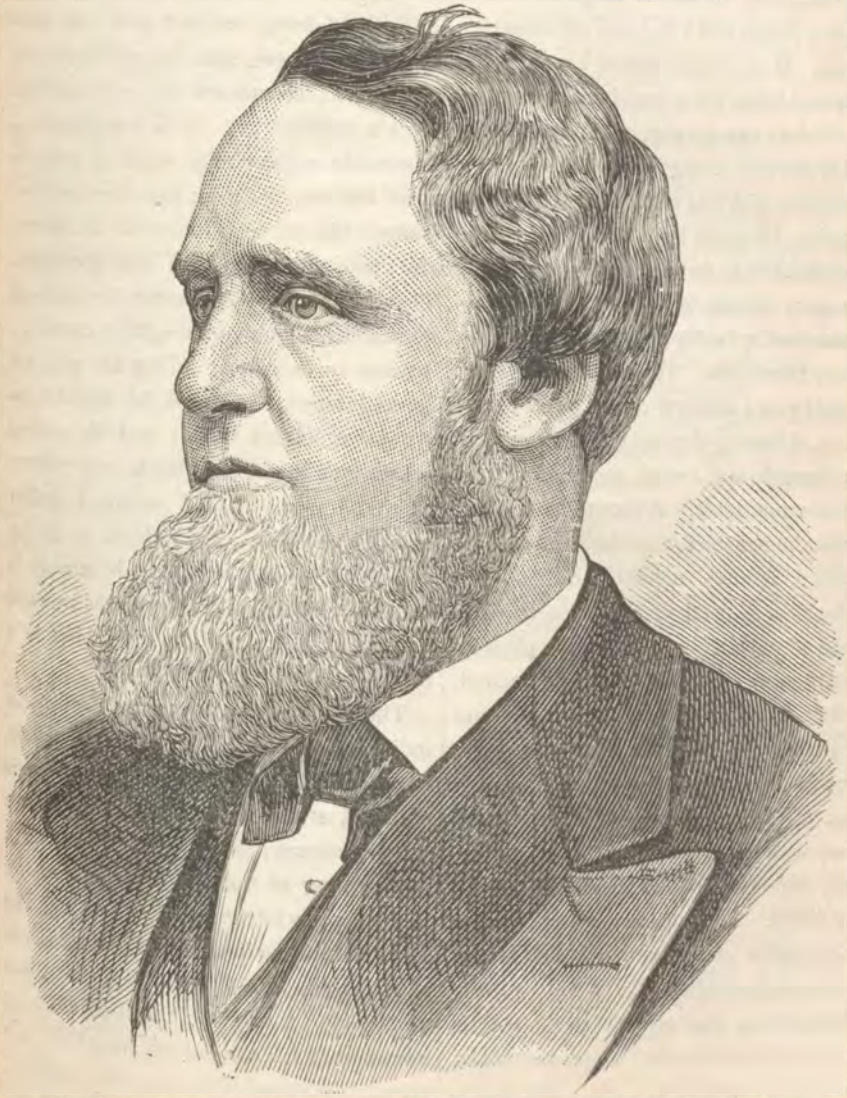
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THE PHRENOLOGICAL JOURNAL AND LIFE ILLUSTRATED.

VOL. 65. 1877.

NUMBER 4.] *October, 1877.* [WHOLE No. 466.



REV. JOSEPH COOK.

REV. JOSEPH COOK.

THIS gentleman has a remarkable physical constitution. He is large, weighing something over two hundred pounds, standing about six feet high, and having a head that measures nearly, or quite, twenty-four inches in circumference. He has a strong muscular frame, which sustains him in his labor. His vital temperament is indicated by uncommonly capacious lungs, abundant digestive power, and a free and vigorous circulation. If he were to devote his attention to physical labor, there would not be three in a hundred, as men average, who would be his equal in physical strength and endurance. In conjunction with this gigantic vital and motive power, his great brain and nervous system enable him to do more mental work and live a more intense life—that life being amply sustained by bodily vigor—than one man in many thousands. The impression which he would give a stranger on the street would be, first, of having physical power enough to walk through any crowd, and dominate by mere dynamic force. A second look would impress the beholder with the idea that he possessed intense mental individualism; that he lived in the domain of thought rather than of physical force; that his physical qualities were subordinate to his mental, and that his life was largely interior; and that while he was moving among men and surrounded by them, he was half unconscious of the outer world, like some great factory with all its machinery in rapid revolution, and its windows curtained to the outer world. This apparent abstraction, or preoccupation of thought, indicates in him the student and thinker.

With all his vital and physical strength, and with all his cerebral scope and might, he is still as sensitive as a girl. His skin is thin, and his highly vitalized blood is distributed so freely and abundantly that the color comes and goes on his face as it does on a sensitive youth just merging into manhood. It is not uncommon to find great power coupled with coolness and stately indifference, which enables its possessor to move through a theme without emotion, working out its logical results careless of consequences; but to find such power and breadth of being coupled with such delicate sensitiveness, such intense tenderness of emotion, constitutes the rarity of Mr. Cook's organization. It is this almost inflammable susceptibility which is likely to wear him out or break him down, and we counsel him to be guarded in his efforts, and take abundant rest and recreation. Those who are most interested in the work he is doing should guard against encouraging him to overwork. When his mind becomes interested in a topic he launches every power of his being; and his natural constitution is not one that is conservative, or would spare himself, or guard against excesses of effort. He feels all he thinks, and thinks all he feels, and is terribly in earnest in whatever he regards as true and important, and never does anything in a merely official way.

The reader will observe that the likeness indicates broad shoulders and a deep chest, but they are not fully represented. There is a broad, strong face, with heavy, yet not coarse, features; great length of brain from the opening of the ears forward, showing an immensely intellectual development. The lower part of the forehead being large shows that he takes into account all the facts and particulars; the middle part of the forehead shows that he remembers everything, and its upper portion indicates breadth and comprehensiveness of thought; while the par-

ticular fullness in the center shows analytical and analogical power, which gives him such fertility of illustration of subjects which otherwise would seem dry.

His Benevolence shows a very high development in the front part of the top-head, rendering him generous, sympathetical, liberal, large-hearted. His Veneration is also strong, so is Spirituality and Hope. He has Firmness, Self-esteem, Conscientiousness, and Cautiousness, which give breadth and strength to the head at and forward of the crown. He has a strongly marked social development, which makes him affectionate and companionable; enables him to make friends and draw friends after him, and to be the center of sociality wherever he moves. And lastly, he has wonderful magnetic power. People feel attracted toward him, and are inclined to coöperate with and conform to his thoughts and wishes. Thus, he does not drive people to accept his conclusions, but such an organization induces a willingness on the part of hearers or associates to think, feel, and act in harmony with him. He is not repellant, even toward those who disagree with him, and is therefore calculated to be influential and popular as well as instructive and convincing.

We have known Mr. Cook from the day he started for college; examined his head at that time carefully and predicted his success; and we have watched his career with more than common interest from that day to this.

The reader probably needs no introduction to this gentleman, especially if he be familiar with the current literature of the day, as found in the daily and weekly newspapers. For during the past year the Rev. Joseph Cook's sermons, delivered in Tremont Temple, Boston, have been published far and wide. He was born January 26, 1838, at Ticonderoga, N. Y., of people who make no pretensions to prominence on the score of heritage or social position. He derived from his father, however, certain religious principles, which have colored his course and utterances as a pulpit orator; for the elder Cook may be said to have been in a sense a student of theology, having taken a conspicuous part as a deacon in the small Baptist society of his town. Mr. Cook's mother is of the same belief, and of that upright, conscientious stamp which may be said to represent fairly the Puritan type of religious thought and life.

At nineteen years of age young Cook was graduated from Phillips Academy, and then commenced to teach, utilizing his leisure in study and preparation for college, which he entered the following year. Over-application to books compelled him to withdraw from study in 1861, and take a year of rest. It is deserving of mention, that while he was a student at Yale, the phrenological doctrine of the mind came up for discussion on one occasion, when, taking the part of an advocate, he argued with so much ability and evidence as to win the admiration of the then president of the college.

In 1863 he entered Harvard University, and was graduated in 1865. His course as a student there, as at Yale, being distinguished for superior intellectual excellence. A year later he entered the Theological Seminary at Andover, and remained there four years. He sought for no settlement in the ministry, but gave himself up to the work of an evangelist as opportunity offered. One year he preached in Linn; the next he gave a course of lectures to large audiences in the Music Hall of that place, selecting for his theme the evils of the manufacturing system in the great shoe factories. In 1871 he went to Europe, where he traveled in England, France, and Germany the first year, and then visited Italy, Egypt, and Palestine, returning to America by way of Constantinople, Austria, Switzerland, France, and London. He began to lecture in Boston in 1874. Ere long his extensive acquirements and earnest and powerful logic drew general attention. At first he presided over the noonday prayer-meeting held under the auspices of the Young Men's Christian As-

sociation. His audiences increased so rapidly that the place of meeting was changed to Park Street church, and later, in the fall of 1876, to Tremont Temple.

Giving his attention to those topics which are most conspicuous in that city of liberal theology, Mr. Cook, of course, drew toward himself the opposition and criticism of the leaders of liberal thought. Such opposition and criticism, however, served to develop his strength as a controversialist, and brought him more conspicuously into public notice; his sermons on the Trinity and on the tenets of Parkerism being very extensively published by the religious and secular press. While handling the difficult questions of the day, with regard to morality and religion, his earnestness and impetuosity take possession of the audience. He has a powerful voice, and great muscular endurance. He is a large, heavy man, much above the usual height, with a massive head, a profusion of smooth fair hair, full beard, lacking the mustache, a broad, expansive forehead, a brow strongly ridged, very prominent wide-open blue eyes, complexion fair and fresh, and all the physical constituents of enthusiasm. In social life he is regarded as one of the most interesting companions, being rapid, brilliant, and profound in conversation, ready to talk on nearly all subjects without flagging or dullness. Having traveled so much, he is well supplied with incidents for narrative, and being from the very constitution of his mind a keen observer, he is well furnished with that material which most pleases the average listener. A writer says: "His mind is capable of rapid transitions, and has that quality of suggestiveness which is essentially feminine, rather than masculine, and which he possesses in a singular degree for a man of so distinctively metaphysical turn; thus, though delighting in the most abstruse themes, and in following them out to logical results, his thoughts are swift as a weaver's shuttle, and the illustrations which come so natural and aptly into his conversation remind you of the attractive notes which sometimes brighten the margin of some page whose text is too profound for you to appreciate."

In his discourses Mr. Cook gives liberal rein to his imagination and fancy, thus lighting up what would otherwise be sheer, close argument with effective illustration and striking epigram. From one of his discourses the following is taken:

"The Old Testament Scriptures out of date? Not till the nature of things is. I rode once from a noon on the Dead Sea through a moonlight on the Mar Saba gorges to Bethlehem in the morning light; I passed through the scenes in which many of David's Psalms had their origin, so far as human causes brought them into existence. On horseback I climbed slowly and painfully out of that scorched, ghastly hollow in which the salt lake lies. I found myself, as I ascended, passing a gnarled, smitten, volcanic region, and often at the edge or in the depths of ravines deeper than that eloquent shaft yonder on Bunker Hill is high. At a place where, no doubt, David had often searched for his flocks, I found the famous Convent of Mar Saba clinging to the side of a stupendous ravine; and I lay down there and slept until the same sun arose which David saw. I looked northward from above Mar Saba, and saw Jerusalem above me, yet to the north, for I had been ascending from a spot greatly below the level of the Mediterranean. As I drew near Bethlehem, through brown wheat fields in which a woman called Ruth once gleaned, I opened and read the book which bears her name. Johnson, you remember, once read that book in London, and moved a parlorfull of people to tears by it, who had curiosity enough to ask who was the author of the beautiful pastoral! In my saddle there in Syria I was moved as Johnson's hearers were in London; but when I opened the Psalms, one by one, and looked back over the ravines toward the Dead Sea, and northward toward Jerusalem and upon the hill of Bethlehem, to which all nations, after a gaze of nineteen hundred years in duration, were looking yet, and at that season sending pilgrims; when I remembered how that terraced hill of olive gardens had influenced human history as no other spot on earth had done, and that in God's government of this planet there are no accidents; when I took the astounding harp of Isaiah and turned through the list of the

prophets to find mysterious passage after passage predicting what would come and what has come; and when I thought of those critics under the Western sky who would saw asunder the Old Testament and the New, and put into the shade those Scriptures which Goethe calls a unit in themselves, and which are doubly a unit when united with the New Testament, I remembered him who, on the way to Emmaus, opened the Old Testament Scriptures, and with them made men's hearts burn."

THAT FACE.

I've seen a face to-day
  I have not seen in years;
Strange that so sweet a face
  Should fill mine eyes with tears.

As spirit of one dead
  It beamed upon my sight;
And with it all the past
  Came back in vivid light.

Time had not spared its marks
  Upon that cheek and brow;
But what I saw was not
  What other eyes see now.

A beauty undefined—
  A smile surpassing sweet;
The which to gain I would
  Have fallen at his feet.

Was no good angel near
  To whisper of my need?
To point him where I stood,
  And with his heart to plead?

I could have touched his hand—
  But something at my heart
Told me, although so near,
  We still were worlds apart.

And so, I turned away
  And hushed the old, old pain;
Ah! well I know that face
  I'll never see again.

ANNA CLEAVES.

ASPIRATIONS AND REALIZATIONS.

A LETTER TO WHOM IT MAY CONCERN.

TO MY DEAR FRIEND HOPEFUL:—

When I read your letter last night, with its gush of aspiration, and its glow of enthusiasm, I could not repress a sigh of regret that these were not of themselves sufficient to carry you triumphantly over all the sloughs of despond and the hills of difficulty that lie between you and the fulfillment of you grand, soaring, beautiful ambitions. But, alas! my fond dreamer, too well I know you will find they are like the impulsive, impetuous, tumultuous tides of spring-time that bubble, and sink, and die away in the fierce mid-summer heats, leaving the gaily-glancing sails of Hope, which you had launched upon their treacherous waves, wrecked upon burning rocks, or stranded in sandy deserts. I tell you there must be beneath the froth and foam and noisy rush of impulse, the calm, deep, slow, yet sure-moving undercurrent of purpose that will not be turned once from its aim, although balked a thousand times in its course, or it is vain to set a-sail your fair-weather argosies of Hope with faith that they will ever reach their destined port. I tell you there must be the invincible determination, the unfaltering and inflexible perseverance, the indomitable pluck and intrepid daring that will not yield to repeated disappointments, discouragements, and failures, or you will never pluck the golden fruit which is now but bud and blossom on the beautiful boughs of promise. I tell you there must be the impassionated earnestness, the stern energy, the heroic devotion, the zealous love, that will not be swerved from their mark by any passing wind of fancy or singing tide of pleasure, or you will never grasp with strong, firm, steadfast hand the power which now in fond anticipation you toy with as a child with bubbles that will burst and vanish quickly in thin air.

Do these rude words jar on your dreaming sense like the harsh, discordant croakings of a tired and disappointed speculator

in the prizes of life? Ah, well, if it were so, in God's name take warning, for it is better and infinitely more convincing to preach from the affirmative than the negative side of success.

Of course all this talk sounds to you trite and commonplace; it is well enough, true enough for those who work by ordinary methods, but in your heroic mood you do not expect to plod dully and slowly, but to soar on strong uplifted wing straight to the mark of your high ambition. Of course these admonitions and suggestions seem to you fit enough for those with whom failure is a possibility, but you do not recognize the necessity of laying hold of any such props and stays as might serve and save the weak and stumbling in their uncertain strivings after good. Of course you are ready to acknowledge and celebrate the power of those virtues which have the very ring of victory in their names, but you feel in yourself so strongly the potent elements of success that you scorn to strap on the harness in which less royally confident souls by bit and lash guide and spur themselves to the goal of their aspirations.

God save you, my dear friend! The great ocean of life is littered with the wrecks of just such easy-gliding sails as yours, that floated out trustful and assured of prosperous winds, pleasant voyage, and happy anchorage; but with no strong, resolute, undaunted pilot of purpose at the helm, they dallied and drifted, and dashed at last upon the rocks, or swung lazily, dreamily into becalmed and breathless seas that carried them to no end. And yet, saddest thing of all, these poor dismantled, weather-beaten, aimlessly-drifting, or hopelessly-stranded barques still seem to themselves bound for the shining port of their youthful hopes, and still fondly dream of the golden hour of arrival from which they are as distant as when first they launched upon their idle, wandering voyage.

But you—ah, my brightly confident, securely hopeful mariner on life's high seas, you feel absolutely certain in yourself that you can never be numbered among these, and resent even the insinuation of a possibility so remote from your happy anticipations; yet forgive me for this marring cloud of evil prognostications and unwelcome warning—the danger is more imminent, perhaps, than you realize. You need to mark, as you stand at the wheel which men call Destiny (meaning vaguely, a something turned by invisible powers), you need to mark the action of your hand, whether its habit is lax, wandering, and uncertain, or whether it is firm, tense, true, instant, and unfaltering in the discharge of its office, for by such signs and tokens you may recognize the character—the "invisible power," if you will—which is to shape and determine your course through the trackless seas of time and eternity. As you hold yourself at the helm now, slack or staunch, wavering or resolute, so you will hold yourself forever. The grand, beautiful future to which you are looking with such eager anticipation is but the sum of multiplied to-days. Believe it, there is no better season for the work you have to do than the present hour, which is slipping from your hands like water while you drift with the tide, idly dreaming of pleasures unearned, of triumphs unwon. It is the golden opportunity which you are expecting to arrive, and which is gliding from your grasp, even while you are waiting for the beautiful harbinger of its miraculous dawning. It is the heavenly guide and helper sent to conduct you to the height of your best and purest aspirations; but having no command or leave to tarry, stays not to entreat or warn, but hastens on to eternity with the record of your earnest effort, or of your faithlessness and failure fixed inefficably upon it, and answering letter to letter to the record which the light of judgment shall reveal written in your own soul.

All this talk seems to you the empty repetition of worn-out truths, passing you like the wind which idly flaps your sails, with the impulse of renewed resolution for the morrow. But the morrow, if you mind not, my fond dreamer of dreams, and weaver of promises, will float in and float out as to-day in a panorama of beautiful cloud-pictures, resolving again to the shapeless vapor of unaccomplished purposes. It is so hard to realize that all these brave projects are not leading directly to grand results, that the

intent to do is not in some sort the deed, that the consciousness of power is not in effect potency; it is so difficult to realize these things, my friend, that if you do not have a care, you will find yourself at last on the dreary limits of life with only the dead sheaves of unused opportunities in your hands, and in your soul the awful, unutterable despair that comes with the full sense of irretrievable loss, of irremediable wrong. Could you borrow one agonizing thrill from the torment of that hour, would it not spur you to instant exertion and expansion of the faculties which now, in blissful freedom to will and act, spend themselves in intoxicating dreams of glorious future achievements? For there is nothing so utterly and desolately sad as the slow, sickening realization of a wasted life; and the late desperate effort to rally to the work of redemption the undisciplined powers half paralyzed by long inaction, is even more pitiful because so drearily hopeless.

The penalty which fell irrevocably upon the poor soul that buried his one talent must be met inevitably by all who leave their capabilities for good lying fallow, undeveloped, and unimproved; for power unused, following the unerring law of nature, steadily declines, and slips at last irreclaimably from the hand unfaithful to its charge.

See to it, then, I beseech you, my ardent and enthusiastic builder of cloud-castles, that the fate of such unhappy drivellers does not befall you; and begin to-day, this hour, this moment, to put in execution the heroic plans and purposes of which you dream, lest to-morrow your hand fall more slack, your aim grow more uncertain, and solacing yourself with the siren whisper, "A little delay more or less—what does it matter?" you fail of your mark forever.

ANNIE L. MUZZEY.

SECOND SIGHT IN HISTORY.

SEVERAL years since a newspaper correspondent, giving a subordinate railway officer as his authority, described a phantom train as passing up the New York Central Railroad in April of each year at the period of the anniversary of the death and obsequies of President Lincoln. The time of the phenomenon was about the hour of midnight. Although the night is usually still, the air along the track becomes very keen and cutting. The watchmen on noticing this take their position at a little distance away and wait the coming of the phantom train. Soon afterward the pilot engine arrives in sight, decorated with long, black streamers, and having upon it a band of musicians playing dirges, and skeletons sitting on every side. The air seems to go back, and the music itself to linger as if frozen with horror. The train passes by with flags and streamers hanging from it, the wheels draped and the track covered as with a black carpet. The sarcophagus is seen upon the funeral car; and all about, in the air and on the train behind, appear vast multitudes of blue-coated men, some leaning on their own coffins and others bearing coffins on their backs. The soldiers who died during the war seem to constitute this funeral cortege. While the train is passing, the wind, if blowing, ceases at once; and if the moon has been shining, clouds arise and obscure its light. There is a solemn hush in the air that almost prevents breathing. If another train happens to be going by at this moment, its noise is drowned by the silence, and the phantom train rides over it. Clocks and watches always stop, and when looked at, are found to be from five to eight minutes behind. Everywhere on the road, about the 27th of April, the time of watches and trains is perceived to be thus retarded.

The assassination of President Lincoln in 1865, it will be remembered, created a prodigious sensation over the country. The Confederate armies had just surrendered, and he was devising measures of general pacification when the crime was perpetrated. It was an event without a parallel or precedent in American history. The most elaborate demonstrations took place. A delegation of members of Congress attended the body from Washington to the city of Springfield in Illinois. Legislatures suspend-

ed their sessions. Every city along the route appointed a delegation to meet the sarcophagus and act as a guard of honor. At every place where it rested the people came from all the vicinity by tens of thousands to pay their tribute of respect. The members of the sad embassy were everywhere received as men discharging the highest public trust. The railroad companies provided special trains for the journey. Finally, at Springfield, where Abraham Lincoln four years before had bidden a plaintive farewell to his old neighbors, having a sad premonition of what would befall him, those neighbors now again assembled and received his corpse. The nation till this moment seemed to hold breath; the last offices were performed, and immediately afterward the noise of political movements at the national capital struck on every ear like the sound of clods on a coffin.

The story of the phantom funeral may be an invention; we have heard of no other verification. There have been tales related of analogous spectacles on battle-fields in West Virginia. An impression so profound and general, and so long in subsiding, like that created by the murder of the martyr-President, would be very apt to affect peculiarly, and even abnormally, minds susceptible to preternatural influences.

If there is a world of phantasms, as there is an every-day world, there exists good reason for supposing that the events of our civil war, with the terrible tragedy at its close, would impress themselves there as upon the plate in the camera of the artist, and so be reproduced subsequently in spectral delineations. These might be fair copies of the original scenes, or blended more or less with other occurrences. Perhaps the phenomena are explained by the hypothesis of Gaffarillus, who lived in the earlier part of the seventeenth century, that organic substances, after having been reduced to ashes, still possess the tendency to take again their living form. Spectral apparitions over graves would thus be explained, as well as the array of armies on ground where battles had been fought. In their recurrence at anniversaries or stated periods there is something grotesquely theatrical, which seems to require an explanation. Science, however, is thus far at fault; and scientists, ostrich-like, too generally evade the matter by deriding such accounts as creations of the imagination.

Similar phenomena, however, have been witnessed in other countries and at other periods. Sometimes they preceded the events which they were supposed to represent; at other times they appeared subsequently, but very often they had no apparent connection with any known transaction. Pausanias writes that four hundred years after the battle of Marathon, there were still heard at the place where it was fought the neighing of horses and the shouts of shadowy soldiers. In the Bible we have the story of the prophet Ezekiel in the valley full of bones. He spoke to them, and "there was a noise, and a shaking," and the bones came together in place, were covered with muscles and skin, and finally the new created bodies were resuscitated with air, becoming "an exceeding great army."

Scotland abounds with tales of spectral appearances, armies marching, performing evolutions, and having hostile encounters. In 1750, a few years after the rebellion by Charles Edward Stuart, a farmer and his son, in the neighborhood of Inverness, beheld a large body of troops clothed in red, and accompanied by women and children, carrying utensils for camp use. In 1686, in the months of June and July, there were seen for several days together, near Lanark, companies of men in arms, marching in order by the banks of the Clyde, and other companies meeting them. Many spectators witnessed this exhibition. One person, however, not seeing it began to ridicule, when suddenly, to his great dismay, it also appeared to him.

In the year 1812 two men were at work at Havarah Park, near Ripley in England, and beheld a company of soldiers in white uniform, several hundred in number. They marched in perfect order to the summit of a hill, and were followed thither by another more numerous body of troops in dark clothing. After they had all disappeared on the opposite side of the hill, a volume of smoke arose as from the discharge of artillery, which darkened the air so that objects could

not be distinguished for several minutes. The whole spectacle occupied about a quarter of an hour.

A similar phenomenon was observed over forty years ago at Paderborn, in Westphalia, which was seen by about thirty persons. Several horses and dogs also indicated a consciousness of the apparition. A year or two after, in October, 1836, there was held on the very same spot a review of twenty thousand men. It was generally supposed that this was the event prefigured.

In the second book of Maccabees, fifth chapter, it is recorded that Antiochus Epiphanes prepared for the invasion of Egypt. About the same time there were seen at Jerusalem for the space almost of forty days "horsemen running in the air, in cloth of gold and armed with lances like an army of soldiers; also troops of horsemen in array encountering and running one against another, with shaking of shields and multitude of pikes and drawing of swords and casting of darts and glittering of golden ornaments and harness of all sorts." The expedition was at first successful, and Egypt fell into the hands of the invader; but the Romans interposing, he made a treaty with Philometor and turned his arms against Judea. Capturing Jerusalem, he massacred forty thousand people, sold as many more into slavery, and established the Bacchic rites at the temple.

Like apparitions are elsewhere mentioned in the Old Testament. The Prophet Daniel saw a vision, chronicled about the same time, which is described as closely connected with events taking place simultaneously in the world beyond our earthly vision. The prophet had fasted three entire weeks, and was standing on the bank of the River Tigris or Dikla, when a celestial visitant appeared. A peculiar quaking or shuddering drove away his companions, while Daniel himself fell to the ground in a deep sleep and paralyzed. His visitor aroused him and explained why *three weeks* had been consumed in coming to him. "The first day that thou didst set thine heart to understand and to chasten thyself before thy God, thy words were heard, and I came forth in response to thy words. But the prince of the kingdom of Persia withstood me one-and-twenty days; till lo! Michael, one of the chief princes, came to help me; and I remained [was thus detained] with the kings of Persia. . . . . Wouldst thou know why I have come to thee? I am about to go forth to fight with the prince of Persia; and when I have gone forth, lo! the prince of Grecia shall come."

This would seem to indicate that all things of note in this exterior world have their counterparts in the other. Exaltation of the mental powers brings these interior facts of the inner world to human consciousness by the clairvoyance of the seer, or the peculiar insight of the clear-seeing mind. In this way Cabanis frequently, in dreams, described the bearings of political events that baffled him while awake; and even Dr. Franklin ascertained in the same way the issues to political problems. Oberlin, the celebrated pastor of Steinthal, in Alsace, received information from his deceased wife in regard to the nature and life of the other world, and the wisest counsels in relation to his undertakings in this. She declared to him that everything on earth was but a copy of the things of the spiritual world.

It is asserted by Stilling that the overthrow of the monarchy of France was to have occurred when the young Dauphin, afterward Louis XVI., married the princess Marie Antoinette of Austria, but was delayed by that event. We have supposed that this was an example of events laid out in the other world, and postponed in this; perhaps as the destruction of Nineveh is said to have been deferred when the people repented at the preaching of Jonah. Others, however, have stated that there existed in Europe at that time a secret confederation that had planned the overturning of the various despotic governments. Among the persons said to be implicated, the Prince de Rohan, Caspar Lavater, and even the celebrated Swedenborg, have been mentioned, and Dr. Franklin, it is intimated, was cognizant of the matter. Secret agents, it is known, traversed the American colonies to disseminate a sentiment in favor of their separation from the mother country. France, enslaved and degraded to very

abjectness, under the reign of Louis XV., it was easy to perceive, would be likely first to be overwhelmed by the deluge. Perhaps Stilling was acquainted with participators in these movements. Lavater, we know, was his friend and fellow-student. But Stilling had inherited from his grandfather the clairvoyant faculty, and knew of the impending catastrope in that country by witnesses of the same character. In one of his works he speaks of a clear-seeing German woman who predicted the revolution and its numerous executions several years before they occurred. In her visions she associated these events with illustrious victims of the atrocious massacre of St. Bartholomew. Especially she remarked, as active in every direction, the celebrated Admiral Coligny, the great Huguenot statesman and leader, who had been assassinated on that occasion. She saw him going hither and thither, his clothing stained with blood.

In that singular book, the Apocalypse, the writer, John the Theologist, describes a person resembling the visitant of Daniel, androgynous, before whom he also "fell as dead." He was aroused to life and directed to write the things which he saw, those that had been, and would be thereafter. Then appeared a long series of hieroglyphical and scenic representations; at the end of which, the angel instructing him, refused his homage, saying: "I am thy fellow-servant and of thy brethren, the prophets." The events and personages of the Apocalypse are shadowed after the Oriental style of the book of Daniel: a lamb-lion, a woman in the sky—or *Virgo Paritura*, a Bacchic seven-headed fiery dragon* seeking to devour her son just born, a hydra-beast from the Mediterranean Sea, accompanied by another monster, and finally, a woman, regally clad and styled the Great Mother, Mylitta of Babylon, on a scarlet beast, also a mounted chief with an army, etc. To each of the seven churches of Asia Minor is assigned an angel of the interior world, as if to represent the elders that presided in this. In like manner it will be remembered that Moses is said to have announced to the Israelites that an angel would attend them to the promised land, to whom they should carefully adhere, and he would drive out the nations before them. Jesus also, when asked who would be the greatest in the kingdom of heaven, answered, that those would be who received His word like little children, adding: "In heaven their angels do always behold the face of my Father in heaven." Thus declaring that men in this life were represented and cared for in that world. Not only groups of men and individuals have each their double, representative, or guardian in that sphere of existence, but the princes of nations are also there, having controversies, triumphs, and catastrophes analogous to and foreshadowing like events in this world. Hence Isaiah celebrates the greatness and pride of the king of Babylon, styling him Lucifer the morning star, who aspired to pre-eminence over the other stars and to be like the Most High. But he is brought down to Hell, the Under-world, where all the dead, the chief ones of the earth, all the kings of the nations, appear before him to exult over his downfall. Ezekiel in like manner chants the greatness of the prince of Tyre, calling him wiser than Daniel, a cherub, one who had been in Eden, the garden of God; and predicts his destruction. The kings of Egypt, Assyria, Elam or Susiana, Meshech, Tubal, etc., are also mentioned as having been cast into Sheol. All these countries are thus described beforehand with their overthrow in the person of their representatives.

The Apostle Paul also alludes in the Epistle to the Ephesians to "principalities and powers in heavenly places," also "spiritual wickedness" or wicked spiritual potencies in high or empyrean regions, and an

*EURIPIDES: *Bacchae*. "Appear in form as a bull, as a many-headed serpent, or a flaming lion."

The many-headed serpent was a favorite symbol in the old-world religions, which existed from the Euphrates to the remote West, and are set forth in "The Great Dionysiak Myth." It represented Bacchus, as we have seen, who was the Baal of the East; it was identical with the Hydra, the symbol at the mysteries of Ceres and Proserpina at Lerna; Persian story has preserved the memory of Assyrian, or "Turanian," rule under the figure of Zohak; and in India the many-headed Naga is still a favorite emblem; and in the world of the dead, Takshak, King of the serpents, is the arbiter of the destiny of souls. It would seem, therefore, that the fiery dragon of the Apocalypse represented the genius of Oriental worship.

archon or "prince of the power of the air," the counterparts of powers and dominions on the earth.

From these examples we perceive that the faculty denominated prophecy, or more correctly the power of prediction, is an acuter perception of events mapped out in a medium peculiar to the other world of existence. Thus the visitant of John introduced him to a variety of scenic representations in order to show him what had been and was about to occur; and the messenger to Daniel in an analogous manner indicated to him the contests going on respecting the affairs of priests, Syria, Upper Asia, Egypt, and the Holy Land, as "noted in the Scripture of truth." In like manner seers of the last century were able to predict the impending French Revolution, its overturns and slaughters, and the new face put upon the history of Europe; and the wars in this country, in Italy, India, and China, were known to clear-seeing persons a long time in advance.

Everybody is familiar with "Mother Shipton's Prophecy" of the Crimean War, and danger to Turkey averted by the interference of the Western nations; and likewise of her prediction that the Turk, a generation later, will be expelled from Europe. The writer heard William Fishbough, in 1857, predict the Civil War and its results, among them the abolition of slavery, and a total revolution of our social and financial affairs. Joseph Hoag described in 1803 religious schisms, extraordinary movements among Freemasons, the American Civil War, and announced the subsequent subversion of republican institutions. Miss Bremer, when in Rome, in 1858, heard a nun at the Convent of the Sacred Heart, when in ecstasy, foretell the fall of the temporal power of the Pope, war and great revolutions, out of which the Catholic Church would come renovated, victorious, poor, but at the same time holy and powerful.

Wraiths, doubles, and other apparitions of individuals still living, or just deceased, are marvels of kindred character. We abound with examples too numerous to mention. Shelley, the poet, was seen a few days before his tragic death, by Lord Byron and others, walking into a wood, they knowing at the time that he was several miles away. Lord Byron himself was seen by several persons in London, when lying ill of a fever at Patras, in Greece. Dante once beheld a man who announced himself as *Dominus Tuus*, holding in his arms the lady Beatrice Portinari. He had in his hand a burning substance and compelled her to eat it; the two then departed into the sky, and shortly after Beatrice died. After Dante's own death the thirteen last cantos of the Divine Comedy were missing, and his sons were importuned to supply the deficiency by their own pens, but about eight months after that event, Jacopo, the elder, saw his father in a dream, clothed in shining garments, who assured him that he was now living the real life. The young man inquired whether the poem had been finished. The spirit conducted him to the chamber where Dante used to sleep, and touching a partition, said: "What you have sought for is here." The place was examined and the missing manuscript found. It had been almost ruined by mildew, but fortunately the letters were not obliterated. Professor De Wette, the celebrated theological writer at Halle, once beheld his own simulacrum through a window sitting in his apartment. Goethe also met himself riding on horseback, dressed in an embroidered gray suit; and eight years afterward found himself at the same place in proper person, thus actually attired.

It has been declared that by a potency existing in nature, the form of a plant, though invisible, is retained in its ashes, and has been reproduced by suffering water to freeze in which the ashes had been placed to lixiviate. Chemists have in this way obtained the form of roses and other flowers. Kircher was familiar with the art; and at a meeting of naturalists at Stuttgart, in 1834, the subject was revived and a recipe given for the experiment which was taken from a work by Oetinger. This author also discovered that the oil of balm shaped itself into the form of the leaves of the plant.

Does not this phenomenon account for apparitions also? They seem to be associated with the ideal form of a person, or

with his dead body, the earth when it lies, or with individuals to whom he was allied or akin.

As man gets older he is likely to take on new relations with nature. The germs of faculties doubtless exist in him, the presence of which are, perhaps, hardly suspected. Sometime they are certain to be developed. Perhaps much which we have instanced is abnormal or precocious, but we do not believe it to he supernatural. There is an instinct, a fortune-telling proclivity, the outcrop or rudiment of some faculty the evolving of which will be as the creation of a sixth sense. "Where there is nature," Aristotle has remarked, "there is *nous*," or divine mind. Nature is the evolving potency. It exists because of divinity, and will never be perfected till it has evolved divinity. There are, and will be, intrusions into this world's history from the realms beyond; and there will be eventually, if there has not been already developed, a sensibility to occult forces which will enable the key to be used by which to understand the whole matter. ALEXANDER WILDER.

JOHN SHERMAN,

SECRETARY OF THE UNITED STATES TREASURY.

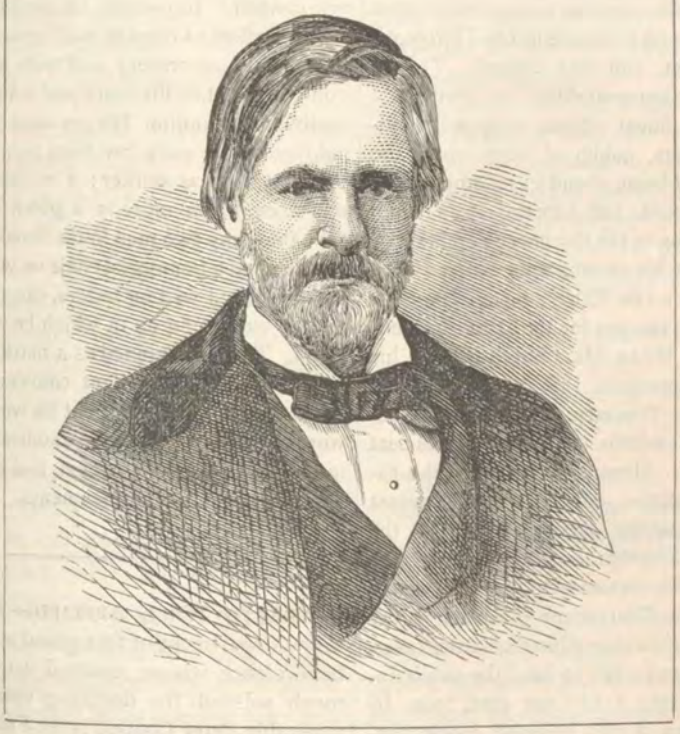
THIS portrait, although derived from an excellent source, does not, in our opinion, present fairly the features of the Secretary. Taken as it is, however, it indicates the descendant of a family whose stature exceeds the average. The face is long from the hair to the chin, and the contours in general give the idea of physical length and slimness. The thoracial region is evidently full, impressing one with a sense of vital power and endurance. It is in his excellent breathing capacity that Mr. Sherman finds his reservoir of physical strength. He may appear slight in body to the ordinary observer because of his tallness and lack of adipose roundness, but that broad chest reveals the secret of his well-known activity and industry.

Those eyes are small, but keen and penetrating. That nose is long, emphatic, and persistent. The brain is not very large, but of fine quality and peculiarly organized. Perhaps not over twenty-two and a half inches in circumference, it is built up mainly in the forehead and crown, its unusual height giving it an appearance of narrowness. Yet there is a good base for the supply of physical energy and executiveness, and a marked prominence in the organs of perception, Individuality and Locality being specially large. The organs on the median line from the inner angles of the eyes upward appear to be large generally, and should characterize him for ability in discerning and estimating the quality and value of facts, for excellent judgment of character, for appreciating conditions and determining results. He should be well stocked with information upon all the subjects relating to his chosen line of pursuit and be ready in its application.

His Language does not appear to be large, and we would not regard him as a fluent speaker, but rather as one who uses words for a purpose; to express his meaning with precision and clearness, avoiding unnecessary verbiage. His Constructiveness does not appear to be large, and hence we would infer that he is not given to the formulation of ingenius plans or expedients, but takes and works upon the results of his intellectual consideration. Given a certain line of duty, he takes the material furnished in its connection and applies it directly, without wasting valuable time in the elaboration of grand schemes or in the contrivance of new machinery.

He has, however, much individualism, strong intuitions, which furnish the key-note

to his thought and acts, a broad sympathy, and no small amount of moral integrity. His opinions are held with great tenacity, particularly those relating to moral subjects; but he is inclined to be reticent on matters of personal morality. He has a good degree of prudence as well as of the sense of duty, so that he is not the man to bear himself lightly in the assumption of responsibility. His temperament conducing to great nervous activity, enables him to accomplish much, but he is not offhand, showy, or brilliant in his manner of working.



John Sherman was born in Lancaster, Ohio, May 10, 1823. He is descended from a family of Connecticut Shermans founded by one of the Roundhead refugees, and his ancestors bequeathed to him a good degree of courage, sterling integrity, and good sense. His father, Charles Robert Sherman, was a lawyer, and afterward Judge of the Supreme Court. He had a family of eleven children, who, at his death, became scattered. William Tecumseh, now the distinguished General, became, by adoption, a member of the family of Hon. Thomas Ewing. John attended school at Mount Vernon until he was fourteen years of age, when he was sent to the Muskingum Improvement to earn his livelihood and to learn engineering. At sixteen years of age a political change gave the

Democrats control of the Muskingum Improvement and deprived John Sherman of his home. He began the study of law with his brother, Charles T. Sherman, at Mansfield, Ohio. After a four years' novitiate he obtained a license, and entered upon practice. He formed a partnership with his brother John, attending to the court duties, and Charles doing business in the office. This partnership lasted eleven years. In politics John Sherman was an ultra Whig. He attended the Whig National Conventions of 1848 and 1852, and in the latter year was chosen a Presidential Elector. In 1854, when the Nebraska issue arose, he accepted a nomination for Congress in the Thirteenth Ohio District, and was elected. To the House of Representatives he brought a capacity for fluent debate, a large knowledge of affairs, habits of hard work, the reputation of being sound in judgment, sincere in purpose, and superior to personal considerations in the discharge of his duty. So well were his constituents pleased with his record in the Thirty-fourth Congress, that he was returned for the three succeeding terms. When Mr. Chase resigned his seat in the Senate in 1861, to become Secretary of the Treasury, Mr. Sherman succeeded him, and has since retained his seat in that body. He was placed upon the Finance Committee; and his speeches against the State banking system, slavery in the District of Columbia, and finance and taxation generally, commanded universal attention. In the Thirty-ninth Congress he devoted himself to the reduction of the taxes, and introduced a bill to fund the public indebtedness into a five per cent. loan, by which means it was believed specie payments could have been reached in 1867; but the bill was mutilated in the Senate and defeated in the House. In the Fortieth Congress Mr. Sherman became chairman of the Finance Committee, and reported a new bill for funding the national debt. This bill he supported in a speech February 27, 1868. It authorized the sale of 10-40 five per cent. bonds to redeem all outstanding debts; exempted these bonds from State taxation; provided for the payment of one per cent. annually of the public debt; offered to the holders of the 5-20s the option to exchange them for 10-40s at par; authorized the conversion of legal tenders into bonds and bonds into legal tenders; and authorized contracts payable in gold. By a large portion of the people this was looked upon as a just and necessary measure, while it was attacked by others as a violation of the pledged faith of the Government, and a step toward repudiation. In appearance Mr. Sherman is tall, straight, and exceedingly spare, with brown hair, small, gray eyes, a large head, high, square forehead, and a countenance indicating the possession of decision, firmness, and self-control. In debate, he speaks rapidly, without effort at display, with great freedom from tricks of oratory, and with animation going straight at his mark and commanding undivided attention. His personal and political history are alike free from reproach.

He is a great worker; it is said that he can accomplish more in a given length of time than any two men in the Senate. When he occupied a Senatorial chair he was generally employed writing letters, except when a debate was going on in which he was interested. Then he listened as a matter of business. He is an excellent conversationalist when he chooses to be, but he won't waste words on an idler. He is methodical, scrupulously neat about his person, and equally so about his papers and documents.

WEALTH WELL APPLIED.—The most useful department of that grand scheme of benevolence whose practical work has so much solaced the declining years of the venerable Peter Cooper, is the Free Library and Reading-room, which have been in operation about eighteen years. The reading-room is open from half-past eight in the morning until ten in the evening. There are at present 310 papers and periodicals on file, and the popularity of this resort is demonstrated by the librarian's report that 609,000 persons have visited it during the past year. These visitors have also in a single month called for 14,400 books and 2,922 magazines. In October, 1872, the Cooper Union Library was opened for the

first time on Sunday, from 12 M. to 9 P.M. This experiment, tried after much deliberation, has proved successful. The order and decorum in the reading-room have been unexceptionable, and the large attendance shows that a real want is thus supplied.

LIGHT IN DARK PLACES.

"This mournful truth is everywhere confessed,
Slow rises worth by poverty depressed."—SAMUEL JOHNSON.

CHAPTER VI.

DOUBLY ASSAILED.

MR. GAFF did not approach "Sal"—as we shall entitle her in her character as book-binder—for several days after the talk between Betty and her, which we have reported. The foreman, therefore, having the field clear, had shown her many little kindnesses, for which she thanked him modestly. The discreet Betty had assured her that Briggs, though a rather rough man, as a director of work wasn't given to making very pointed advances in his relations with the girls, unless they encouraged him by their effusive expressions of gratitude for the little favors which the ordinary routine of the shop afforded him many an opportunity to confer, in the way of assistance in the execution of difficult parts of their work. Sal's modesty and superior intelligence to the other girls commanded Briggs' respect in a way that he couldn't quite understand. He couldn't assume the "boss" over her as with the others, and this fact piqued him somewhat. He had learned of her fatherless state, and had even visited her mother, and thought to establish an intimacy which would give him a kind of masculine guardianship of her out of home-life. He saw that Betty and she were very confidential, and supposed that she would welcome the proffer of a grown man like him, and so much better related than Betty to give her advice and protection when she needed them. But when the overtures he made were delicately declined, he could not discern the motive of such declination. His intelligence and moral sense were not of that cultured order which perceives the impropriety of the gratuitous offering by a comparative stranger of attentions which belong only to the province of intimate friendship.

He was piqued by her maidenly reserve, attributing it to an assumption of superiority, which he inwardly acknowledged, and he hoped for some contingency which would compel her to seek his protection; and he was annoyed by any interference like that of his employer, Mr. Gaff, which might completely forestall his hope. He really did not care much for the moral happiness of the girls under his charge, but his nature craved domination, and he wanted to feel that he could control, if he chose, the movements of those whose earnings mainly depended upon his good-will.

"Closely occupied, as usual, I see."

"Sal" looked up quickly, and a flush mounted her cheek as she met the gaze of the junior partner bent admiringly upon her.

"Such skillful fingers as those," he continued, "should have encouragement. Hasn't Briggs made a raise in your wages lately?"

"No, sir."

"Well, I suppose he thinks we can't afford it. Prices dropping constantly, I'm sorry to say, don't give much prospect for doing what we employers would like to for our girls."

"I think, sir, that you try to do for us what is fair," said "Sal," quietly continuing her work.

"Yes, of course; but most of them complain because of our cutting them down. Competition and hard times are bad for book-binding. But we who live in good society, you know, must keep up with our neighbors. By the way (in a lower tone), Miss Sallie, this is a lovely day; say the word, and you shall have a glimpse of the Park behind my new trotter this afternoon."

"Thank you, sir, but I'd rather not."

"Oh, you needn't fear that you'll lose any part of your day. I'll make up your time. You need the fresh air. Your cheeks aren't as rosy as they were. Come now, where shall I meet you?"

"You must excuse me," half-tearfully the girl replied, "for I can not accept your kindness."

"Well, you're about the strangest girl I ever met. You're certainly not afraid of me?" persisted Mr. Gaff.

"Not exactly, sir; but I feel that it would not be right."

"Cho! Conscientious scruples! Well, I guess you'll get over some of them before many years."

Sal's cheeks flushed crimson deep at this, but she bent lower toward the sheets she was stitching, and plied her needle with nervous rapidity. As she made no response to his ejaculations, Gaff continued:

"Any other girl would be glad enough for some pleasant relief from such work as this; but if you're determined to wear yourself out, why, I've nothing more to say today besides good-morning," on which he strode off, apparently much vexed, toward the foreman's little office.

Gaff had spoken in so low a tone that Betty could catch only a word or two; but when he walked away she half-muttered to herself, "I guess he found his match that time;" and glancing over to Sal, gave her a sympathetic look, and whispered: "Don't feel bad about it, I know you've done jest right."

Mr. Gaff accosted Briggs with—"Strange girl that Sal over there. Hey, Briggs?"

"Yes, rather," replied the foreman.

"Can't quite make her out. What a figure she has! Guess Jarrett would give something to have her in his ballet."

"But you couldn't do anything like that with her," rejoined Briggs; "she's one of your *moral* sort."

"So it seems; but it's a pity she must be shut up here. It aint her place."

"She doesn't complain," said the foreman; "and never a word about short wages like the most of 'em."

"It's the bringing up, man," burst out the employer. "You can see the difference between her and the other girls in an instant. She's worth a dozen of 'em. If I wasn't married, I don't know but I'd look after her interests pretty seriously."

"I guess you'd have to court the mother too," grunted Briggs.

"You know all about her then;" and the two men eyed each other for a moment suspiciously and then changed the subject.

The two girls discussed the conduct of Mr. Gaff on their way homeward that evening, in the course of which the troubled maiden said:

"I don't know what to think of that man; whenever he comes near me, I feel a singular thrill, like a shock of electricity."

"I've felt such-like myself," said Betty, "and something tells me, 'Look out now; somebody's tryin' to git the best of yer.'"

"Mother says that we are influenced by people according to their moral disposition and motive," rejoined Sal, "and that it is well for us to note the kind of influence or impression that is made by a stranger upon us, for by it we may be warned against danger."

"How does Mr. Gaff inflooence ye?"

"I feel a sense of repulsion when he is near, and of relief when he goes away."

"I guess ye're not fur wrong in what ye think about him. I'm told that his marri'ge was made up by his father and his wife's father, they bein' old friends, and thet he was putty young when they married him; but there aint no more sympathy 'tween him and her than 'tween a duck and a rooster. I feel kinder sorry for him on that account, as he's a fine, smart man; but 'taint no excuse for going round where he's no bizness to, and coming 'mong us girls in the shop besides."

They were nearing their customary point of separation when two young men, much in liquor, lounged out of an alley immediately in front of them.

"Hello! me fine gals," said one of them, who grasped Sal by the shoulder, and leered into her startled face; "by the holy whisky bar'l you're a sweet one, and must go with me."

"Let go of her, you rowdy," cried Betty,

who, inured to scenes of vice, had the courage of a lioness when aroused.

"What d'yer say, you —. Jim, take care of the ugly old hag, will yer."

Jim, who was so much intoxicated that he staggered, aimed a blow with his clinched hand at Betty's face, but the adroit and quick woman sprang back and escaped it.

"For shame, young man! for shame!" exclaimed a rich and powerful voice; and its owner, a tall, thick-bearded man, stepped up.

Both the roisterers were startled. He who had addressed himself to Sal let go her shoulder and turned toward the new-comer, and, recognizing him, mumbled:

"Excuse me, Mr. Stanley; didn't mean any harm; only a little joke, I'll take my oath on't."

"Fine joking certainly, thus assaulting defenseless women, and your condition only aggravates the offense. I shall see you again about this."

Turning to Betty and Sal, who had drawn to one side, and were regarding the crest-fallen demeanor of their assailants with evident surprise, their unexpected champion remarked:

"Shall I accompany you home, young ladies?"

"Oh, thank you, no, sir," replied Sal. We reside but a few steps farther. But, indeed, sir, we are greatly obliged for your aid;" and taking Betty's arm, she started on a quick walk homeward.

Stanley gazed after them for a moment and then resumed his way down the avenue. Scarcely had he measured a hundred yards when he suddenly halted, and glancing back in the direction the girls had taken, spoke half aloud:

"How much alike! Brother and sister surely; and Camp's eyes and forehead, as I would know among a million."

CHAPTER VII.

A CONVERSATION ON SUBJECTS OF GENERAL INTEREST.

Mrs. Camp listened with a mother's anxious interest to Sadie's recital of the street attack. She knew full well the perils of the working girl in a great city, and although she trusted much to her daughter's intelligence and carefully educated moral sentiment to save her from the ordinary dangers of her vocation, yet she could not help feeling apprehensive lest Sadie should become the victim to unexpected violence. She therefore took such precautions as were in her power to shield her beautiful child from harm, and she found in the people of her immediate neighborhood, many of whom were indebted to her for services, seemingly little to her, but important to them, very warm coadjutors. Her co-occupants of the tenement in which were her apartments, were nearly all very kindly disposed to "Mrs. Camp's gal" and ready to do anything within their poor capabilities in her behalf. So, if after nightfall the lady found it necessary to send Sadie out, and she could not accompany her in person, a half-dozen of the women, young and old, among the fifteen in the building, could be relied upon as ready to go with the girl.

Among the poor it is that we find the best expressions of intimate and zealous friendship and self-sacrifice, and Mrs. Camp, in the course of her six months' residence in those humble quarters, had found among the poor and ignorant who surrounded her gems of manhood and womanhood, for whom she entertained a deep respect. The outward appearance might be rough and unattractive to the ordinary observer, but beneath the coarse garments beat a warm and sympathetic heart, and from the deep-set eye beamed a soul whose native intelligence and dignity needed but the word of kindness to reveal. Thus Mrs. Camp did not lack associations which were edifying even to her cultured mind, and illustrations of high character to which she might point her children when instructing them in things pertaining to human nature.

But to return to the conversation at the supper-table that evening. Sadie had described the appearance of the gentleman who so opportunely took her part, when Norton exclaimed, "Why, mother, that's very much like Mr. Stanley, who gives me the waste over in Perry Street."

"Yes, mother dear, that's the gentleman's name. I didn't quite catch it when the

drunken fellow spoke to him. I hadn't quite got over my fright then."

"He's a regular 'brick,' I can tell you, Sadie. I mean that he's just one of the nicest men."

"Judging by the tone of his voice, Nortie, I should think so too. You know, mother, how some people show just what they are by the way they speak. This gentleman has a steady, sure way, which seems to tell you, 'I mean what I say;' but it isn't that peremptory sort of tone which most men put on when they want to be emphatic; it's strong and yet gentle."



NORTON WATCHING THE CARPENTERS.

"You mean, Sadie, that it carries power with it. Men of unequal or unbalanced mind indicate their irregularity in their voice and speech. Controlled by passion or caprice, they talk in a precipitate, headlong fashion, in a high key, or else in a jerky, spasmodic style, which is wearisome to the listener. Steady, self-reliant natures are measured in their tone and language, and if they possess a high degree of benevolence, show a tenderness in their expression. A well-balanced character indicates anger by an unusual emphasis rather than by harsh, reproachful words; the manner is stronger than the language. I am very thankful, my dear child, that you escaped so easily from the drunken men. Although I think that they had in view—as that one said who tried to excuse himself to Mr. Stanley—scarcely more than making what in their maudlin state they considered fun. Then the hour, with so many people in the street, would have prevented any but those out of their head from attempting anything very rude and insulting."

"Isn't it strange, mother," remarked Norton, "that men will spend their money for that nasty stuff they drink, and then make such big fools of themselves? Last Sunday afternoon, when I went to the Mission, I stopped at Bumpy's, for he'd promised to go with me. But his father'd sent him out for some beer. I waited five minutes and he didn't come; then I started down-stairs, as I couldn't wait any longer, and on my way out I saw a man lying on the floor in one of the rooms, while a woman was sitting at a table near him with her head bent down in her hands, and two or three little children, most naked, were running about from one to the other, screaming. I asked Bumpy about it and he said the man got drunk every Sunday, and spent nearly all the money he'd made the week before, and most of the time the children didn't have anything to eat except what the neighbors gave 'em. Why don't the good men shut up the rum-shops, mother, when they know that drinking makes so many poor and hungry and sick?"

"My dear boy, I can not fully answer your question. I am sure that all good people are grieved because of the liquor-selling and liquor-drinking which they see around them, and which are maintained by people who call themselves respectable in spite of the great misery and crime which are the direct product of intemperance. It must be that the men who sell liquor and the men who drink it are numerous and strong enough to control the law-makers, otherwise the good sense and benevolence of the community would put a check upon the trade. The money, far worse than thrown away by those who drink, amounts in this city alone in the course of a year to several hundreds of millions of dollars."

"Millions—hundreds of millions!" cried Sadie; "why, mother, if this money was given to the poor families in New York every one would be made comfortable. The superintendent said in the Mission last Sunday that Mr. Vanderbilt, who died lately, you know, had a great fortune, fifty millions of dollars, and could have supported over a thousand families with his income from it alone. But to think of several hundreds of millions of dollars being spent in what poisons people and makes them crazy!"

"It's wicked," said Norton, "and I see every day where a good deal of the money the poor spend for drink goes to. There's O'Callum, down on the corner, he keeps two horses and two or three wagons, and nearly every day his big fat wife goes a riding in the Park, all dressed up, with gold rings and chains, and a black man to drive. Then you'll see O'Callum himself always dressed up in nice clothes. Why, mother, don't the poor people know that rum isn't good for them?"

"Many of them know it, Nortie, but their companions get them into the habit of drinking by inviting them to take a glass now and then. Some have such poor homes that they go to the saloons for what they consider cheerful society, and on winter nights for warmth and comfort, and so get into their bad ways. Far too many are born with a fondness for liquor because their father or mother was a drunkard, and as they are not restrained by some kind hand, they go naturally to destruction. Oh, my dear children, the lessons of intemperance are dreadful beyond expression!"

"I'll never touch the stuff, mother, never."

"May God help you, my child, to keep that resolution!" said the widow solemnly, and with an expression upon her face so full of grief that Dell's intuition half caught the truth, for the little girl exclaimed:

"Mamma, mamma, dear papa didn't drink rum, did he?"

"No, my precious one, but mamma had a darling brother once who learned to drink when he was at a boarding-school, and he could not give it up, and oh, he went on and on, in spite of all grandfather and grandmother could do, until he died. So noble in spirit, too, he was! 'Dear sister,' he said to me, not long before he died, 'if it would only put a check on this horrible rum traffic I would submit to being chopped into inch pieces.' And my poor father often said that Clarence's death was a judgment upon him, for he used to let brother, when only a little boy, drink wine from his glass when there were callers at our house, and that he had a fondness for it when he went away to school."

"You have said that I looked like uncle Clarence, mother."

"Very much, my boy. Just such hair as he had, and such a chin, and nose, and all but the more prominent eyebrows, which are like your father's. And your head is broader than Clarence's, which gives you the industrious spirit of your dear father. Industry, Nortie, will save you from many temptations to evil. Clarence was sweet-tempered and amiable, but he wasn't fond of work; he liked to lounge about and talk with young men, and it was this disposition, which father permitted to grow, which really brought him to ruin."

"I like to work. Wouldn't I be a good carpenter, mother?"

"I think that you could become a very good one, Nortie."

"Don't I itch to have a saw, and a plane, and a chisel, when I see the men working on buildings with 'em? I just do. Oh, yesterday Mr. Stanley asked me if I liked to be running around doing odds and ends of

work, and I told him I'd rather have something steady to do, though I liked to be out of doors. Then he asked me if I'd like to be a carpenter, and I said, Yes, but if I was 'prenticed to anybody I wouldn't get any wages at first, and I couldn't afford to do that, as I made sometimes two whole dollars a week. Then he laughed, and said, 'I'll have to see what can be done about it.' Wasn't that good?"

"Very encouraging and kind of the gentleman, but don't be troublesome, Norton."

"Oh, no, mother, I shall not; I only go there twice a week, and I really think that the clerks save the waste stuff for me."

"Dearest mother," said the tender Sadie, "you know what the Bible says about the righteous never being forsaken? I think God takes care of us because we try to do what is right."

"My darling," replied the widow, warmly embracing the maiden, "I know that our Father takes care of us, and all who strive to live in accordance with His precepts. We need not fear if we do the best we can."

"Mamma, I'm so sl-e-e-e-e-py," yawned Dell. "Ye sand man's got into my eyes"—and Mrs. Camp, observing that it was past the time when the youngest was usually put to bed, ordered preparations for retiring. She believed in the virtue of going to bed early, and as might be expected, the Camp family rose much earlier than their neighbors, midsummer's sunrise often finding the mother busy with her needle.

(To be continued.)

WILLIAM BLAKE.

SEVENTY-FIVE years ago, "more or less," a man living in the smoke and roar of restless London, spent a holiday in the country. It was early summer. The air was sweet with hawthorns blossoming; along the grassy banks the wild flowers showed "their little fairy faces," the sunshine, clear and warm, yet tender, baptized their delicate beauty. He saw, in the green fields, young lambs frisking beside their sober, steady-headed mothers, and this was the song that flowed through his heart, and that he, in turn, sang to the unconscious creature who inspired it:

"Little lamb, who made thee?
Dost thou know who made thee?
Gave thee life and bade thee feed
By the stream and o'er the mead;
Gave thee clothing of delight;
Softest clothing, woolly, bright.
Gave thee such a tender voice,
Making all the vales rejoice.
Little lamb, who made thee;
Dost thou know who made thee?

"Little lamb, I'll tell thee,
Little lamb, I'll tell thee.
He was callèd by thy name,
For He calls Himself a lamb.
He was meek and He was mild,
He became a little child;
I a child and thou a lamb.
We are callèd by His name.
Little lamb, God bless thee;
Little lamb, God bless thee!"

He who wrote so sweetly of Divine Love and its meek earthly emblem, wrote many other beautiful poems. He was a man of strange fancies.

Poets are apt to be very sensitive. The gift that makes them poets inclines them to be very unhappy over trifles, and a little neglect, often imaginary at that, is to them a keen pain.

But Blake had what Charles Lamb called "a poetical *clairvoyance*." Perhaps, had he lived in later years, he would have been called "a spiritualist," for he believed that whatever he wrote was revealed to him; and when people failed to appreciate his poems or pictures, he met indifference with indifference, saying that the commendation of his invisible audience satisfied him.

He was born in London; one authority says in Ireland, in 1757, and before he was ten years old, showed his gifts as poet and painter. His father was a hosier and not able to give his son an art education, though he encouraged his tastes. He haunted the places where engravings and paintings were exhibited, feasting his eyes on line and color. He was apprenticed to an engraver, and he also painted in water-colors and drew fantastic illustrations for his writings.

He died in 1828; and, for half a century,

the busy world has had scarcely a thought to bestow upon him.

In the last winter the story of his peculiar life was re-written, and his strange pic reproduced in heliotype.

H. E. G. PARDEE.

MY DREAM.

My dream! Oh, would it were a dream!
At midnight deep, o'ercast,
My frail, rude raft on ocean waves,
'Midst angry billows, tossed;
When, suddenly, at rudder-beam
A demon fierce appears,
With hideous grin and raging yell,
To multiply my fears.

I stand appalled! then rush to thrust
The demon from his hold;
But, fired with fury, he resists,
And I lie stunned and cold.
My raft is glazed with ice—I slip,
Yet struggle wild to catch,
And hold, at length, by finger-tip,
And weary—waiting—watch.

For days, and weeks, and months, and years
I wait, and still he holds;
Prostrate, I clutch, and cry: "God save
My raft from ruin's folds!"

The ice melts off—my hold grows firm;
My hopes rise up amain;
But ere I know, the demon's breath
Out-pours—I slip again.

Again I catch, and waiting, watch;
Again I hope to save;
But now the sea rolls over me
Its all-devouring wave;
And still I cling, and still I strive—
Naught can my soul o'erwhelm;
I know the end must bring me peace,
For Jesu guides the helm.

At length, worn out, my hold I loose—
In Jesu's arms I waft;
I feel that I've no power, and cease
To struggle for my raft.
When lo! the demon disappears!
My raft floats back to me;
In casting all my care on Him
I and my raft are free.

MRS. E. P. MILLER.

RECOLLECTIONS OF A PHRENOLOGIST.

No. II.

ABOUT the year 1850 a gentleman called for a full written description of character, and at the close of the description this statement was added as a kind of summing up:

"I judge that you are a self-made man; that you have had little help; you have worked your own way, and began early in life to do it. We suppose that from fourteen to sixteen years of age you left the hills of Western Connecticut and went to your nearest market-town—not New York—and walked three times up and down the main street to see which was the best store in the place; and having come to a conclusion, you entered, asked for employment, obtained a situation, and were thoroughly faithful in all your duties, keeping your eye on the desk and office of the proprietor, anxious to please him and serve his interests, and rise to distinction in his confidence; you attended to your business and did not skylark and frolic with the rest of the clerks, who disliked you because you would not join with them in their amusements. When you were twenty-one years of age you went into partnership with the proprietor, married his daughter, continued the business and got rich."

This being taken down in short-hand with the rest, was written out word for word. The gentleman agreed to call the next day for his description, but declined to give his name. We asked him for some initial, or any designation, and he said "W" would be sufficient; and paying the bill, he left, being informed that he could come in the next day at a given hour and it would be ready. Accordingly, he came in and read the document about twice or three times through in silence, folded it, put it into his pocket, buttoned up his coat and overcoat and put on his gloves. Of course, I

was anxious to know what he would say about it, whether I had made a mistake or otherwise. He walked up and down the office four or five times, and stopping short, said:

"I left the hills of Western Connecticut, as you say, when I was fifteen years old; I went to Newburgh, and, as I remember, walked just three times up and down the main street for the reason you stated, to see which was the best store; I went in and made application for a situation. They said they did not want any help; but after a few minutes' conversation they said I could come; and I never knew till now why the young men seemed to be down on me, but I now understand it; it was because I would not frolic, but would work and attend to business. When I was twenty-one I went into partnership with the proprietor, and he had no daughter, but had an adopted daughter. I married her, stayed with him in the business about fifteen years, and retired with thirty-six thousand dollars, and am now auditor of accounts on the Erie Railway, and doing most of the work of a bank, and have a nice farm that I conduct besides, and am thirty-six years old."

Of course, my description was an inference from his organic constitution, and the man had followed out his natural bent so thoroughly that the statement and the history corresponded literally.

In 1859 the ship *Dreadnaught*, bound from Liverpool to New York, under the command of Captain Samuel Samuels, had on board a terrible mutiny. There were thirty men, besides six boys and five officers, and two hundred and fifty-three passengers. The captain observed that his crew was made up of the basest materials. They had planned to disobey and do as they pleased on the voyage, and finally refused to work. He stopped their food, and said:

"Now, boys, I have determined that you shall have no more food in this ship unless you return to your duty; and I can give you for this each five years in the State prison and a fine of one thousand dollars. Now, I call upon any of you to return to duty and to come to me, and I will promise to protect all such, and if any man attempts to prevent such persons, I will positively blow out his brains."

They replied, "No, captain; we have all put our foot in it, and we will hold together and have it out."

Captain: "You will be hungry by and by, and will think differently."

Crew: "No, captain; if there is provisions in the ship we will take them."

Captain: "Men, I have hired you to work; I have paid you; I have fed you well and treated you kindly; you have refused duty; you rise in open mutiny, and I have stopped your food. Now, if any man dares touch anything on board this ship now under my command, I swear that I will shoot him."

Crew: "Oh, but, captain, pistols sometimes miss fire, and our knives miss never. We would have your heart's blood."

Captain: "I don't fear you. I might shoot you any time. If the ship were in peril, I would certainly do so."

He then went forward alone upon the other side, having his pistols concealed beneath his jacket. One of the men seeing him alone, and as he supposed defenseless, sprang forward with marline-spike in hand, exclaiming, "Come on, boys, we have got the bloody ——!"

But the captain was too quick for him; drawing the pistol he presented it to the man's head, saying, "One foot farther and you are a dead man!" The sailor beat a retreat. The men then came rushing, with loud shouts, upon deck. The captain stood firmly with up-raised pistol. "Death to the first man who advances," said he. Then commenced a scene that beggars all description; the men uttering language the most obscene and profane—all swearing and shouting together, all urging each other forward, but each unwilling to be the first to meet the fatal pistol. The captain still stood unmoved, and quietly awaited the moment when he could be heard. He again demanded of them that they should return to their duty. This they refused, with one consent, to do. He then promised to defend and protect any one who would come over to him; but no one moved. "Now, men, what have you to expect? I shall raise my signal of '*Mutiny on Board*,' and how long will it

be, think you, before I shall have help, and how will you escape the consequences? I am master of this ship, and while I live will be here obeyed. I demand of you, in the first place, that you all throw overboard those knives, and then go to your duty."

Crew: "But what guarantee have we, captain, when we shall have done so, that you will not fire upon us?"

Captain: "This—that I do not fear you with knives in your hands; I certainly should not dread you when unarmed. But to satisfy you, I will give my pistols into the hands of any of the passengers, to be held by him until we arrive in New York."

"Well, shipmates," said one burly fellow, "there goes my knife;" and one after another the knives were all tossed overboard. "Now, captain, our knives are overboard, will you give us watch-and-watch?"

"No, men! there is where we started. You shall not dictate terms to me. I am here to order, and you to obey. I will be obeyed; you shall not have watch-and-watch again on board this ship."

The captain then walked aft and called out for all hands to "Haul taut." The men did not come creeping along, but they came on the run and pulled with a will, so that the captain had to call out, "Easy, my men, or you will carry away that rope." After this the work went smoothly on, but it was evident that the men were very nervous, and fearful as to what the captain intended to do on his arrival. The men soon after came, one at a time, and begged the captain's pardon, promising to behave themselves; and they did behave themselves. An account of this mutiny had appeared in the morning papers, and I had read the account, which was filling the city with wonder and admiration. A stranger came into the office quietly and asked for a full examination. It was dictated to a short-hand writer to be written out extendedly. The closing paragraph of which, as a kind of summing up, was as follows: "You are known for social power, for bravery and thoroughness, for independence and will power, for respect, for criticism, for practical judgment, and for an independent, frank cast of mind and character. You are distinguished for your courage and self-reliance, and had you been commander of the ship *Dreadnaught*, which has just arrived in port, you would have pursued much the same course with the mutineers as Captain Samuels did."

He looked up and remarked, "I am Captain Samuels himself."

This whole matter was published in the PHRENOLOGICAL JOURNAL for November, 1859.

The late Honorable Nicholas P. Trist was sitting for an examination to be written out in 1851. During the examination he looked up three times and insisted on knowing if we recognized him, or if we had any idea who he was. Finally we said, "You have the love of justice so strongly marked that it is almost a mania with you. You are firm and unflinching; you are systematic and careful, and these traits combine to make you exceedingly tenacious in respect to that which you have occasion to do or to be responsible for. And if you were a diplomatist, you would be considered, perhaps, captious by those who were negotiating treaties with you, or discussing any subject, because you would want to have the phraseology just exactly as you understood the meaning of the convention to be, and your patriotism is so strong that you would even go against the instructions of your Government, and risk its censure, if the circumstances, in your judgment, warranted it, and trust to the future for your vindication."

He looked up with his sparkling eyes and slapped his hand on his knee and said, "Tell me, sir, honestly, do you know me?"

"No, sir; I have not the faintest idea of who or what you are."

After the examination was completed, and after he had got the written statement in his hands, finished, he gave his name and related something of his history. He was the United States Minister Plenipotentiary to Mexico, and made the treaty of peace with that country at Guadalupe Hidalgo, which closed the war with Mexico, and ceded to the United States the large territory embraced in California and New Mexico. But for political reasons Mr. Polk had made up his mind that he did not care to have the treaty of peace concluded just

then, and had sent on an order recalling Mr. Trist. But the Mexican Ministry having the treaty nearly completed, begged Mr. Trist, since he knew the circumstances better than his Government could know it, to finish and sign the treaty, and leave it for the Government of the United States to accept or reject. Mr. Trist did so, and though he was practically a prisoner on the way home, under the fiction of the guard of honor, or military escort, he was censured by the administration, but the Senate of the United States ratified the treaty of peace, and Mr. Polk signed it, and for twenty long years Mr. Trist was tabooed by the party who sent him there. But when he died in 1875 he was postmaster of Alexandria, Va., and a more faithful, honest, thoroughly reliable and good man never bore office in the United States. He married Mr. Jefferson's granddaughter, Miss Randolph.

In 1875 I was describing a man, making a full report of it to be written, and said to him that he had "such an exact sense of size, form, and quality that he would learn to judge of the height of trees, or estimate the weight of cattle by their size, with a kind of intuitiveness which would enable him, with memorandum book in hand, to go through a drove of a hundred oxen, and in less than a hundred minutes put down their weight, and not vary on an average ten pounds on each."

The man looked up, smiling, and remarked, "Oh, I can do better than that. That is my business. I bought a hundred and seven oxen last week and varied only four hundred and fifty pounds from the weight afterward ascertained by the scales."

When I asked him whether the oxen weighed more or less by four hundred and fifty pounds than he estimated them, he remarked, with a proud shake of the head, "Oh, they weighed more, *of course*."

Another case of a similar nature. In May, 1877, a gentleman was being examined, and his character written out, and I stated that he had remarkable development of the organs which combine to give a man intuition, ready judgment of truth, practical talent, and that if he were engaged in cattle buying he would be very accurate in his estimative judgment; or if he were in the insurance business he would become an expert in adjusting losses, and that he would also make a good hand to go into a burnt district to buy the damaged goods to be renovated and put on the market. He looked up and said, "Do you know who I am?"

"I don't, as the saying is, know you from a side of sole leather, except I know you are not the sole leather."

When the examination was completed he inquired if we would have all that written out word for word as it had been uttered. We replied, "Yes." "Very well," said he, showing his card. "I am the president of one of the fire insurance companies in the city of New York, and I have acted for many years as adjuster of losses where our company and perhaps a dozen others were interested. And this very day several companies insist that I shall leave my office and go all the way to Chicago to adjust the loss by a large fire, and to-night I expect to start, but having a little leisure to-day I dropped in to see what you would say about my organization." NELSON SIZER.

HOW REAL LIFE TESTS THEM.—A Burlington paper thus half humorously tells some square truths: "Of twenty-three young men who recently stepped across the threshold of life from an Eastern college, and went forth upon the trackless ocean of life to battle with relentless fate, and win renown or a glorious death in the arena, eleven are clerking in auction stores at $14 a month, one is running a fish-boat, two are learning the house-painting trade, one starved to death before he had been out of college a week, one is driving team on a street contract, two are tramps, and the others are living with widowed mothers, who are their only support. Fact is, brethren, when old Life grapples its hooks into a man's collar, it shakes all his arena and ocean and battle business out of him so quick that in six weeks, if he is alive, he knows more in a minute about the price of pork and flour than he can tell you about a Greek root in six months."

PEACEMAKER GRANGE.

"The age culls simples;
With a broad clown's back turned broadly to the
Glory of the stars."—*Mrs. Browning.*

CHAPTER XVIII.

THE ANGEL IN THE HOUSE—THE FIRST-BORN.

THIS series of Peacemaker Grange sketches draws to a close. We pass now over an entire year and into the following spring. Again the Rev. Edgar Anthony is at Mid Haven. It is April. There is a fine development of vegetation in that South-land. The hour is eight in the morning. Edgar has breakfasted, and wonders that his friend Herman does not appear—not knowing that he was called away late at night to the iron-works at West Haven, to attend to a matter wherein his practical business talent was available. Edgar tarries awhile in the chapel, and dwells fondly upon the tastefully-painted mottoes on cards that adorn it. Everywhere in these buildings one meets pithy sayings of the wise and good in quaint, medieval, illuminated letters. Here are some of these utterances: "Whatsoever things are pure, whatsoever things are lovely, whatsoever things are of good report." "O Liberty, what crimes are committed in thy name."—*Madame Roland.* "The great vices of our time are simply lying, cheating, and stealing."—*Nation.* "And they hearkened not unto Moses for anguish of spirit and for cruel bondage." "Charity never faileth." "Honor all men."—*Paul.* "Freely Religious: not freely Irreligious." "I am among you as him who serveth."—*Christ.* "He who has God, has all things."—*Molinos.* "Strive to be in the spirit and power of those who gave forth the Scriptures."—*Geo. Fox.* "What neither passion, nor grief, nor genius can discover, reveals itself to you in prayer."—*De Staël.* "In my Father's house are many mansions. I go to prepare a place for you." "The 'Peace of God' and the 'Rest of Brahm' the same, yet not the same." "Try the spirits—whether they be of God." "Be ye holy, for I am holy."—*Jehovah.* "Thou wilt not leave us in the dust; Thou madest man and Thou art just."—*Tennyson.* "Naught is there under heaven's wide hollownesse that moves more deare compassion of the mynd, than WOMAN brought t' unworthie wrechednesse, thro' envie's snares or fortune's freaks unkynd."—*Spenser.* "Unspotted from the World." "Come unto me all ye who labor and are heavy laden."—*Christ.* "They were strangers and pilgrims in the earth." "The prayer of Confucius is unceasing."—*Confucius.* "The fruits of the Spirit are Love, Joy, Peace, Long-suffering, Gentleness, Goodness, Faith, Meekness, and Temperance. Against such there is no law."—*Paul.*

Impatient to talk with his friend, whom he only saw for a few moments the day before, he goes to Herman's sitting-room or parlor.

Who greets him there?

Why, the blooming Alice, of course, looking rosy and happy, and just a litle matronly. She smiles very sweetly and shows her fine double row of pearly teeth as she says: "He has waked at last, but vows that he is having such a good time with the baby in bed that he will not get up. Why, he is only just a bigger boy than the other one. They understand one another perfectly, are full of hearty sympathy and mutual appreciation. Come in and see them."

As Edgar entered the neat bedroom, with its substantial cottage furniture and a prevailing tint of blue in the colors, the four-months' baby was in the act of tugging his father's head from the pillow by one ear and one side-whisker; while pater was pretending to be asleep.

"Ha! ha! your reverence has caught me. I tell you no one knows anything about life until he has been through this. The small Edgar Anthony here has taught me more of what you call the arcana of the universe than the big one ever did; in fact, more than any one has taught me, except that big girl Alice, who stands there looking so jealous and unhappy. I tell you, her 'nose

has been broken,' as they say of children, ever since this youngster came around. She has no chance at all at her other boy."

Hereupon big girl Alice, radiant as the morning star, had, of course, to make a rush for her biggest boy. She rolled the chubby little Edgar away from Herman, saying, "Go away, naughty baby—this is my boy."

Baby was "old enough to take notice," and entered fully into the spirit of the scene. He had met only smiles and kisses so far in life, and saw in every rebuff only a rougher caress. So he was soon "right on deck" again, venting his crows and little shrieks in a perfect gale of excitement.

Meanwhile the young minister looked on, both delighted and saddened; for as yet he and Miss Edith had not come to terms. He had been called back to his pastorate soon after the date of the previous chapter, and been confined to church duties and routine quite steadily ever since, on account of the increasing infirmities of the rector, whose assistant he was. It was evident that the elder pastor was in a decline. Edgar knew that he was a favorite with the congregation, and that the chief pastorate, with its ten-thousand-dollar salary and perquisites would soon be offered to him. His prospects were bright in the direction of conservatism; but his growing doubts of some of the "Thirty-nine Articles," and his long visit at the Grange had spoiled him for a conscientious fulfillment of the duties of the office. He and Edith had maintained a dignified correspondence; but they had not yet exchanged any vows.

As Edgar sat there looking at that "holy family," he muttered in the Greek of the old tragedian, "*Annumina, innupta, electra!*" and had visions of similar possibilities for himself. Presently Alice was called away to household duties; and sitting by the bedside, Edgar entered into serious converse with his friend.

"So you find your brightest hopes quite realized?"

"More, more than realized! Oh, what a series of joys! You know that you lent me those books, 'The Angel in the House—the Betrothal;' 'The Angel in the House—the Espousals.' After going personally through those sweet experiences, here comes now 'The Angel in the House—the First-born,' to cap the climax."

"And you think this thing is to continue right along; and that 'blessed is the man who hath his quiver full of them?'"

"Yes; here, if anywhere on the earth, can a man realize the full joys of conjugality and paternity. You know I have some property; and in the ordinary course of things I would have married a society girl, full of all the absurd notions of the proprieties that infest such brains. I should have had a brown-stone front in New York, just inside the sacred precincts of Murray Hill. I might have managed to hire and pay for three servants, and live through what you call their moods and tenses, mutations and mutinies. I should have had to pay for ten times the house-room, etc., I needed, and go a round of society routine, the most of which would have been quite disagreeable to me. Half my life would have been artificial. My wife as well as myself would have been burdened with all sorts of unnatural cares and ceremonies. Here all is natural. There is no waste of time, effort, or money. We have all of good that ordinary civilization can show, with not a quarter of its drawbacks."

"And there is no dread of raising children?" said Edgar.

"No, indeed. Of course, when the society was young and comparatively poor, there was need of caution in this respect. But now, with abundant capital and more demand for our products than we can supply, and varied industries that insure constant employment, we do not hesitate to follow the natural course in this respect."

"You talk like a veteran Peacemaker."

"I feel like one. I am thoroughly identified with this Society, and feel already as if I had never lived elsewhere."

Just here the infant Edgar sat up on the bed and began to clap his hands "patty-cake" fashion. "See that little image sitting there laughing for joy, with the blue eyes of his mother," said Herman. "I remember you used to say that the hardest passage in the Bible for you to understand was the injunction of Paul—'Rejoice evermore.' It seemed to you quite impossible

to understand the frame of mind that could comport with such perpetual joy. And I must say that I have experienced the same difficulty. But since this embodied joy has come into my heart and home, and he is only a little more cheerful than his mother, I see plainly that these two clearly voice the prevailing tone of the natural and still more of the spiritual world; and 'Rejoice evermore' seems written all over the face of creation."

"Yes; I must admit that nothing has so nullified my pessimistic tendencies as the perpetual jocundity of good women and good children. Truly their angels must always behold the face of their Father in Heaven. They are perpetually bathed with celestial sunshine. There is no night in their souls, even as it is in Heaven. You remember the popular picture of Dante and Beatrice. I think it well illustrates the different attitudes of the two sexes with reference to this matter. Dante is walking and talking with Beatrice in the spiritual world. He is moving on a lower plane than that on which she glides, though they are side by side. He is in the shadow. The continual gloom of his atrabilious temperament appears in his face. The attitude shows that he is reasoning with her, perhaps of fate, free-will, etc. She is serene and beautiful, bathed in light, 'clothed in white Samite.' Heaven's sunshine is on her. She may be supposed to be replying to him in the language of Tennyson."

Just at this time baby Edgar has crawled through under the bolster, and is peering mischievously at his father, as if to say, "Now for another round." Herman caught him in his arms and kissed him repeatedly, while the little creature chuckled and frolicked and struggled and kicked, like a canary taking its morning bath.

"They talk about little fishes living on water," said the happy father. "Why, I believe this youngster gets half his fat from kisses and other caresses that impart magnetism. Herein we find an everlasting negative to the horrid doctrine that babies should be taken from their parents in a great measure and raised as the children of the community. The palatial, excellently-kept foundling asylums sufficiently disprove that theory."

"As I see it," said Edgar, gravely, "the most important influence of this new angel in the house is to dissipate any lingering inclination you may have had to believe in free-love doctrines. I remember you were at one time somewhat impressed by the specious arguments of those who say that we need variety in love—need, as we change, to change our companions; or else there is an inharmony of temperament. Whatever may be necessary and right in rare, exceptional cases, I can find no such general rule in human nature; and your experience during the past year and a half must have inclined you to shun more and more 'the sensual feast, the reeling faun,' and to let the ape and tiger in you die a natural death."

"Yes, indeed, Edgar. Even the white purity and innocence of a sweet young girl—who gives herself wholly to you as a wife, and seems incapable of any but right and noble thoughts or actions in this connection—needs to be supplemented by the innocent gambols and winning, artless, and endearing ways of the little prattler who soon comes to her arms, before the true-hearted man can see all the pros and cons of that question—can realize the length and breadth and depth and height of true conjugality. That clear-eyed boy in the arms of his clear-eyed mother rises up in vision to rebuke me when my thoughts incline to stray toward the forbidden fruit of unlawful pleasure."

CHAPTER XIX.

Edgar Anthony found Peacemaker Grange without any important change. It had passed unharmed through the first year of the hard times. Its wise leaders were not among the number of those who expected that the waves of financial trouble would soon subside. They had foreseen and predicted the panic, and trimmed their sails to meet the gale. Knowing that the policy of contraction, initiated by Hugh McCullough, as a means of carrying out his selfish personal aims, would result in a great depreciation of real estate and personal property, they had sold everything in the shape of

such assets that was not needed for carrying on business; and had passed the word to members and friends to do likewise. The consequence was that few rural regions could be found in the country where the people were so well prepared for the storm. Feeling that it was their high mission to help demonstrate the feasibility of the associative life, and that all legal means of substantiating their financial position were lawful to them under the circumstances, they acted as shrewdly as the wisest of the capitalist class who had precipitated the crisis. They invested in Government bonds, knowing that those securities would appreciate, as was intended. They also kept on hand all the greenbacks that they could conveniently carry. Knowing that the New York city banks would be among the last to allow their stock to depreciate, and that they would keep paying dividends out of their surplus, the Judge had taken care to give the Society a good allowance of that sort of stock. He felt that it was exceedingly necessary to keep the Peacemakers on their feet as to money, and that they should imitate the old Jews during their first efforts toward freedom, by "spoiling the Egyptians," and even taking usury from "the nations round about," while refusing interest from each other, except at a very low rate.

So the Society was scudding under rather "bare poles," but in perfect safety. Continued effort was made at a quick turning over of money. No new enterprises were undertaken that would not be speedily remunerative. Everything manufactured was gotten up in such a thorough manner that their wares were already spoken of with the same commendation as are those of the Shakers. With regard to the private currency of the Association, as the process of contraction went on, they began to be alarmed at the distance at which it circulated, the amount that never came back, and the constant need of new issues for their own use.

After Herman finally got himself dressed and breakfasted, the two friends walked out over a portion of the estate; the young father insisting on taking that inevitable baby along in his little carriage, in spite of the half delighted, half angry protests of the fond mother. There were not many new buildings to be seen. Two more wealthy sympathizers had built villas on eligible sites; but they were not allowed in any way to encroach upon the rights or privileges of the poorest members.

The spring morning was fresh and clear. The roar of the falls and the hum of the factories were heard. The plowing and early planting were in progress by various happy, sportive groups. Everywhere life and zest were given even to the rougher work by the presence of robust women and girls in tasteful "bloomers."

"Would you rather work here than in the factories?" said Edgar to a girl in whose cheek the rose was not half concealed by the nut-brown hue.

"I like it well for a change; but I work in the factories and shops also, and teach a writing-class in the afternoon."

To a thoughtful man who was guiding a gang-plow, he said, having had a previous acquaintance, "Are none of you frightened here? The gloom deepens over the land; wages are falling; and men and women are everywhere being thrown out of employment. Tramps abound."

"We have small fear here. Look at this broad domain—twenty thousand acres. See how snug we are. We owe nothing. For years we have fed our people mostly on the products of the soil. We can raise what wool we want for clothing, beside what little cotton is needed, which we certainly can obtain in exchange for other products. But oh, sir, it is love and wisdom we rely most on—love and wisdom in the leaders to lead us wisely and unselfishly—love and wisdom in the led to follow peaceably and quietly in right ways.

Meeting Judge Templeton, Edgar said: "Judge, if this sort of living becomes common in the earth, the Malthusian theory will have to be revived. Such peace and plenty and ease and comfort for the many will soon cause the earth to be overstocked."

"Never fear. You should already be aware that people who enjoy all the amenities of life, such as abundant entertainment

and diversion for the mind, are not so fecund as the poor and oppressed, whose range of enjoyment is so very narrow. But the over-population of the earth is still far off. Portions of China appear to be the only places yet overstocked. Why, it is estimated that the fertile valley of the Orinoco could furnish food for the whole population of the globe. But come now, here is a vision that sometimes rises before me. The earth is full of happy, enlightened, noble people, quite full, and this thing has been long threatened and provided for. The isles of the sea are full; the mountain tops; the deserts have been made to blossom, and they are full. The poles are populated clear across by a hardy people, who find life enjoyable even there. Untold millions swarm upon the rivers and seas, living upon fish. All swamps have long ago been drained. All jungles turned to gardens. No spot upon the earth is unpeopled or unproductive. And at last the telegraphic dispatches from all quarters concur in the statement that the turning-point has come; that henceforth, unless population is decreased, general short rations and then general famine will ensue.

"And now a strange thing happens. The whole earth has been divided into townships, each containing and owned by one or more coöperative societies. Representatives from each township hasten to the county seat. For what purpose? To draw lots for a great sacrifice of and for humanity. Two centuries before the sages had given warning that about this time the famine must begin. And what had the people done? They had met everywhere in convention and listened to plans and propositions. Mind you, all sorts of reasonable stirpiculture had already been practiced, and there was the average number of children in each family. But in the absence of war, pestilence, and disease, the inevitable three-times-one-is-three had at last threatened doom. Many had advocated celibacy. Indeed, the crisis had been postponed a whole century by the voluntary celibacy of young people who could not endure the thought of being a party to the plan upon which the majority settled. It was this: As no life is complete without conjugality and paternity, it was concluded that all should have a chance to enjoy them, even if it was necessary that the average span of life should be curtailed. So it was decreed finally, in the great Areopagus of the nation, that it should be made optional with the young people of that generation which came into maturity thirty years ahead of the crisis, to individually choose whether they would remain unmarried or drown themselves at the age of fifty.

"Now I saw in my vision that the vast majority of them had agreed to the drowning, which would last but a minute, rather than forego the normal life for thirty years with a true mate. Well, the time came to draw lots in every county, for the word had passed that a thousand millions—a small part of the population—must go at once to the spirit world, or else a great check must be put upon population. So the thousand millions were chosen out of all the earth. Then I saw them cheerfully trooping toward the seaports, where steamers had been prepared with barges alongside that could be sunk beneath the waves and brought up again. They went even with song and gladness, went like the periodical sacrifice of maidens in the Greek fable. They uttered themselves thus: 'Adorable Creator, we had hoped that Thou wouldst have interposed to prevent this: but we know that Thou hast more room for us in the celestial country. We go now gladly into Hades, to make room for other happy husbands and wives—fathers and mothers.' So I saw them bidding adieu to children and friends at the wharves, and that there was no excess of grief over this long-expected event. Then they went down into the sea, and afterward they were brought back dead, and the mated ones were clasped in each other's arms. They were buried at the public cost with great pomp, and monuments reared over them as martyrs. And their children continued to 'increase and multiply and replenish the earth' on the same terms until a new sacrifice was called for."

"Judge," said Edgar, with a little irony in his tone, "I appreciate the drift of your vision; but I feel like asking you to 'take my hat,' as they used to say. That vision is a little ahead of anything of that sort I

have met. I really feel ashamed of not being a husband and father during the present lack of people in the earth."

In another chapter what remains to be said about Peacemaker Grange will be presented. S. LEAVITT.

(To be continued.)

MADAME BRINKERHOFF AND PHRENOLOGY.

IN our June number a short account of Madame Brinkerhoff, the eminent vocalist, was published. Since that time some interesting data concerning the lady have come into our hands, and as they have a peculiar relation to Phrenology, we have reserved space in our pages for them.

Madame Brinkerhoff ascribes to Phrenology the power she has possessed from girlhood to fill out her life according to its teachings, to be worthy of herself. Years ago Mr. Fowler was lecturing on Phrenology in a pleasant hall on one occasion, and looking over the audience, he asked as a favor that some would kindly come forward and permit him to examine their heads publicly. Such as had friends present he would prefer, for their testimony's sake. No one offered for some moments. At length a little girl, with two plaits of golden hair tied with blue ribbon, rose up from her seat, took off her bonnet and quietly, seriously went up to the platform. He smiled upon her kindly and complimented her courage. He turned her profile to the audience and then began moving his hands gently over the head. The little girl's blue eyes looked firmly into his as he drew away for a moment and then placed his hand upon her head again, saying: "I do not know this child; have never seen her before, to my knowledge; therefore some one here may be astonished when I say deliberately that I hold my hand on the head of a child remarkable for force of character and mental development. Her mental curiosity is insatiable. She is a great reader—a passionate reader. Lighted paper and matches have served to keep a little more light for her as the flickering candle, if she had one, would wane. Even the moon, I dare say, has served my little subject here to satisfy her cravings for reading. She can go without eating for many hours, and even hide away for her loved books. This feeling must be taken charge of and rightly directed.

"Her nature is frank and truthful. She hates lies; if she ever has told any she hates herself. She is a critic by nature, having judgment and high standards even now. She is not religious; that is to say, she abhors form. I feel sure that if taught the Lord's Prayer, by this time she has left off saying it, unless she is conscious of desiring to pray, but not for form sake. She is probably the most attentive listener to the minister in church; but that is because she intends to find out whether the minister can take up the threads of his discourse and win her to his way of thinking. It is an intellectual game for her; she is willing to be beaten if he can do it. Reverence, therefore, is small, and should be cultivated. She loves the sublime. Benevolence is large; she does not like to look upon suffering of any kind; wants to help every one. This needs watchfulness, or she will be imposed upon. She will give the impression of being an energetic person. It is not her nature; that is her will power. She can make herself do whatever she thinks she ought to do; but I will draw you a true picture of her if I place her in a rocking-chair, her feet on a stool, and a book in her hand. Yet her executive powers are immense, and her endurance great."

Here Mr. Fowler rested for a moment, and then said: "I do not know what the little lady's pecuniary position may be, but she will be a fortune to any man she may live to marry. She has more soul than most girls, as well as a warm heart and pure nature. Her musical powers should be good. Tune is very largely developed; also a great capability for languages;* in fact, I am so interested in this subject that I shall beg of her to give me a fuller opportunity for examining this highly developed organization at my office."

This opportunity was afforded Mr. Fowler by Clara Rolph, for she it was. Later, or when Madame Brinkerhoff, Mr. Wells testified to the growth and filling out of her brain, as predicted by Mr. Fowler. Madame Brinkerhoff has literary talent; and musical art, in all its branches, is her debtor.

* The lady sings in six languages.

Department of Literature, Science, Education.

True philosophy is a revelation of the Divine will manifested in creation: it harmonizes with all truth, and can not with impunity be neglected.

THE FALL OF THE TROUBADOURS.

THE sun was rising in an unclouded sky. The lofty towers of ancient Beziéres, situate upon the southern slope of France, just shut in from the Mediterranean by a narrow coast-line, were tinged with a pale red; and then all the city grew radiant in the early light. Thus it had appeared on other mornings until it came to be said in all the country round, "If God dwelt upon earth, He would wish to dwell in Beziéres." But that day nature was at variance with herself. The vanguard of the greatest army that had assembled in Europe since the subjugation of the Roman empire, and more ferocious than the savage hordes that fell upon Rome and sacked the eternal city, was before her gates. Within all was commotion. The leader of the besieging army had called upon the beleaguered inhabitants to renounce their religion or be put to the sword, and they had hurled back the soul-stirring defiance, "Death is nothing; faith is everything." There were some in the city who, like the invaders, were of Romish faith. These had begged for mercy. But the ferocious commander, exasperated at the stubbornness of the town, declared that if the whole city did not acknowledge their fault, they should *taste* of one curse, without distinction of religion, sex, or age. There were pale faces and sickening hearts in that city then; but faces were doomed to grow paler and hearts to be torn with agonies never known before, ere that terrible storm should pass. The courage of despair, which sometimes blesses mortals, fell upon the environed city. They hurled wide the gates and rushed upon their enemies; but the battle is not always to the brave. Scattered, torn, and bleeding, they were driven back and into the city, while mingled with them in terrible confusion the fanatic army entered the gates. "Kill them all," shrieked the legate as he brandished his bloody sword on high; "kill Catholic; kill heretic; God will know His own;" and above all the clang of armor and the groans of the dying the terrible death sentence was heard echoing along the destroying host. There were thirty thousand people in that city—all doomed to die that day. It was a terrible time. Why did not the God of the eternities darken the face of the sun?—for He heard the screams of those women as the swords of the soldiers hacked them in pieces; the wailings of those infants as they were caught upon the points of the swords and hurled bleeding at the mothers who bore them; the agonized shrieks of the children as they were crushed beneath the feet of horses and men; and the great bell in the church of St. Nazaire tolling, tolling, in mockery of the Christian's death. All day long the reeking swords kept swinging; all day gory hands kept striking, but as the sun sank low in the west the work was done—the prophecy of the morning was fulfilled; the curse had been visited. When day faded into twilight, the bell tolled less loudly, and finally died away upon the wind; and when twilight darkened into night, the towers that glowed in the morning sunbeams grew bright once more, for through the darkness the flames were rising higher and higher until the whole city was one vast sea of flame—a mighty funeral pyre for the heroic dead. When the sun rose the next day there were no towers to greet him and reflect his light; neither was there any blood. There was only a heap of burning, smouldering ruins—the city and the people lay dead together.

This scene of horror in the complicated drama of French history was the opening of that memorable crusade against the homes of the Troubadours at the beginning of the thirteenth century. The opening scene of a tragedy which extended through four centuries of time, in which the actors were nations uttering the decrees of fate. A tragedy which comprehended the destruction of a language, a literature, and a people; which united one nation upon the ashes of another; which witnessed the partial decay of the most powerful despotism ever held upon earth; and which ended, as it had begun, in the pitiless destruction of human life. The scene of this terrific movement is comprehended in the present provinces of Languedoc and Provence.

By a mystic chain of cause and effect, each found itself an independent province in the latter half of the eleventh century—Languedoc governed by a native count at Toulouse; Provence falling under the dominion of the Count of Barcelona. For a century or more previous to this, while other nations were being overrun by invaders, and Northern France was in constant turmoil, this portion of the continent, buying the privilege at the expense of a brilliant historical record, was quietly developing a language and a commerce—the one to form a literature, gay, beautiful; the other to generate wealth, luxury, and refinement. But with the elevation of the Count of Barcelona to the throne of Provence, a new element was introduced into Provençal life. Years before a Saracenic flood had swept westward, and in its ebb had left traces of its presence upon the heights of Granada. The poetry and imagination of the East found congenial soil in the valleys of sunny Spain. A new political and social fabric was reared in emulation of the great Eastern nation. Cities of wealth and refinement, with palaces whose ruins excite the admiration of every nation, grand by day in the symmetry and massive structure of their buildings, and brilliant at night with lighted streets, gave evidence of a refined and cultured people when London was the center of an incipient civilization, and when the visitor "sank ankle deep in the mire of Paris." Granada, Seville, Toledo, Cordova—this was the brilliant galaxy of wealth and learning. Poetry, history, philosophy, science—all these were familiar studies. The mercantile portion of the populace had control of the Mediterranean, and their vessels there rode at anchor in every harbor. Great freedom of thought was tolerated; and religion was regarded of less moment than knowledge. Woman was recognized as a tender creature, created for pleasure, and not to be disturbed by the cares of life. A class arose who wandered from court to court relating their tales of magic; and the love for poetic disputation grew strong in society. Beyond the Pyrenees they bore a different character. They were of Gothic descent, rude and untainted with the vices of luxury. They belonged to a race who lived in tents and whose king traveled in an ox-cart. A people, unimaginative, bold, and warlike, reverencing woman as a nobler being. Between these two classes of society adventurers were passing through many decades. The people of the North were modified. They possessed a musical language. The imagination of the South passed above the Pyrenees and ultimately crystallized into the poetry of the Troubadours. The union of Northern sentiment with Southern opinion gave birth to the principle of chivalry. The wandering story-teller of the South became the minstrel of the North. Freedom of thought and speech passed over the line. A commercial taste was developed. Every city became a seat of learning, wealth, and gallantry. The presence of the Count of Barcelona with his Spanish retainers in Provence gave a new impetus to the movement. With a genial sky and fertile soil, the country grew in wealth till every court reveled in luxury, and poverty was unknown. The court of Toulouse became the wealthiest on the continent. Then the search for refined pleasure began. With no religious anchor, laxity of morals began to prevail. This was the period when the Troubadours were in the zenith of their fame. Every castle echoed to their songs; and days were made merry by gay tourneys. The infection spread. The king of England caught the spirit of song; Italian knights reflected the gayeties of Provençal life; and

Germany lighted up with a faint glow of chivalrous imagination. The name of the Troubadour was heard over Europe; and the language of Southern France became suddenly famous. Thus was the foundation of modern literature laid throughout the continent.

Rhyme had been invented below the Pyrenees. Like everything else it traveled northward. Would it not have been well if it could have stopped there and died with the people whose life it resembled? It was a mechanical art, designed to please the ear and tickle the fancy. The Troubadours were in search of pleasure; they found it in the beautiful and musical sound of the rhythm. Like music it appealed to the sensibilities. Sismondi must have caught its spirit when he said: "It was not the ideas alone which gave delight when the Troubadour adapted his beautiful language to the melodious tunes of his harp; when inspired by valor he uttered his bold, nervous, and resounding rhymes; or in tender and voluptuous strains expressed the vehemence of his love."

The Troubadours cultivated no acquaintance with the classic poets. This fact is easily referable to the prejudice of the Arabians against them. Hence we find in Provençal literature no reference to the myths of ancient story—a source of beauty and sublimity to poets of later days. They relied wholly upon themselves; and while this was favorable to the development of individuality, it was narrowing in its tendencies. Their themes were of love and war, though frequently made a vehicle for satirical reflections upon the clergy and Church. Owing to this peculiar restriction, their poems abound in repetitions and strange conceits. They treated of love as they understood it; therefore their poems frequently inculcated principles of disgusting immorality.

There is no towering genius in Provençal literature. Some wrote more voluminously than others; but this does not make a poet great. Amand de Marveil sang his love for the Countess of Bezières in the easy flow of Troubadour sentiment. "They tell me that the heart is only touched by the intervention of the eyes. But I, though I see not the object of my passion, am but the more deeply sensible of the loss I have sustained. They may bear her from my presence, but they can never untie the knot which attaches my heart to hers—that heart so tender and so constant. God alone divides with her, and the portion which God possesses, He holds as a part of her domain, *if God could be a vassal and hold a fief*. Happy scenes in which she dwells; when shall I be permitted to revisit you? A herdsman from thence would be noble in my eyes! Oh that I inhabited a desert, were she but with me! That desert should then be my paradise!"

This was a day when the ladies could reply to the verses addressed them by their lovers. Beatrix of Savoy courted the muse in other than amorous strains, and her poem, from which the following extract is taken, is classed among the war songs of the Troubadours:

"I tell you that nothing my soul can cheer,
Or banqueting or reposing,
Like the onset cry of 'Charge them,' rung
From each side as in battle closing.
When the horses neigh,
And the call to aid is echoing loud,
And there on the earth, the lowly and proud
In the pass together lie;
And yonder is piled the mingled heap
Of the brave that scaled the trench's steep."

Of all the varieties of Provençal song, the satirical poems possess the greatest historical interest. Among this class of writers Pierre Cardinal, who flourished near the beginning of the Albigensian crusade, holds important rank. Speaking of the priesthood he said: "Indulgencies and pardons, God and the devil, are all put in requisition. Upon these they bestow paradise by their pardons; others they condemn to perdition by their excommunications. They inflict blows which can not be parried; and no one is so skillful in imposition that they can not impose on him. There are no crimes for which the monks can not give absolution. For money they grant to renegades and usurers that sepulture which they deny to the poor, because they are unable to pay for it. To live pleasantly, to buy good fish, the whitest bread, and the finest wine—this is their object the whole year round. God willing, I would be of this order, if I could purchase my salvation at this

price." This literature was gay and careless, doomed to decay because of its conceited self-reliance, unless some commanding intellect—some Tasso or Milton—who, by the superiority of his genius, should burst the narrow limitations of Provençal verse, create a new mythology, copy the sublimity of nature, and immortalize the superstitions and impulses of men as he observed them.

Their religion was intimately connected with their social life, as seen in their literature. They were a careless people, caring more for poetry and pleasure than for any particular creed; but they hated Romanism with a radical hatred. They were disgusted with its jugglery and trickery. Their faith, if they had any, was a modification of Manicheism. This belief had prevailed in Armenia in early times, and with the Saracens had been introduced into Spain. Whatever it may have been in principle, it was infinitely less demoralizing than the precepts of the dominant Church. Michelet, the French historian, believes that in Toulouse there was a church of the new faith with its council, priests, and pope. Be it true or false, the understanding was evidently beginning to assert itself and the domain of Romanism to be threatened. When Pope Innocent III. was seated in the pontifical chair, he found himself wielding a scepter over Europe, with the sovereigns of the nations holding their domains in feudal tenure to him. This was a legitimate result of the crusades. When he cast a complacent glance over the continent, and rested his eye upon this happy people of Southern France, enjoying wealth and freedom, ridiculing the Church of Rome in their national songs, and worshiping the Deity in their own way, the jealous pang which went to his heart was abundant reason for passing death-sentence upon them. Inquisitors were dispatched thither. They excommunicated to no effect. One missionary made himself so obnoxious that he was killed. The pope was exasperated. The faint glow of intellect, reflected from the midst of nations submerged in Romish darkness, must be extinguished in blood. One effect of the crusades had been to reveal Southern Europe to the North. The northern portion of the continent blindly followed the pope. They hated the East and everything which bore an Eastern impress; therefore they hated the South. They were aroused by the impiety of the Troubadours. They despised commerce and looked upon the South as an emasculated people. When, therefore, Innocent preached a crusade against Southern Manicheism, the fanaticism of the North, yielding to no mercy, but thirsting for the blood of heretics, rushed from every quarter to a common center; and when he proclaimed universal indulgence and pardon to every crusader, there swarmed from every city, from every nation, the vilest portion of humanity. They came with hands reeking in the blood of murdered victims, with minds disordered by the remembrance of inhuman atrocities and defiled with the most disgusting crimes which the foul imagination of fallen humanity could suggest, and swelled the fanatic host to hundreds of thousands. Thus they swept down upon the peaceful Languedocians, rendered effeminate by refinement and culture, but possessed of courage greatly disproportionate to their prowess. Then followed scenes of slaughter and inhumanity which sickened the heart in imagination. "For twenty years nothing was known but massacres and tortures. Religion was overthrown, knowledge extinguished, and humanity trodden under foot."* The crusades were led by a man who must remain an object of detestation throughout all ages—Simon de Montfort. A man with no courage, no judgment, no self-reliance. Ferocious, brutal, perfidious, despicable in every respect. This inhuman wretch, styled by the pope "The active and dexterous soldier of Jesus Christ, and the invincible defender of the faith," who could stand composedly by while heroes were dying under the most excruciating agonies in defense of their faith—this man could so far forget his invincibility and dexterity as to jump from a two-story window and sneak out of the city, like a booted dog, because a mob was railing against him. This crusade, though nominally terminating when the "foul heresy,"

* Sismondi.

as an organization, was broken up, and its defenders scattered or put to the sword, still lived in principle and burst forth in occasional persecutions until the beginning of the seventeenth century, when the Camisards were destroyed — an event which marks the death grapple of that principle first manifested on the morning of the storming of Bezières with the progress of free thought in France. The effects of this war were manifold. That which impresses us most is the destruction of the Provençal language and literature. While the war was raging, literary studies were impracticable; and at a later day the people were so scattered that to maintain anything like a perfect language was impossible. More than that, the political condition of that part of France was afterward unfavorable to the cultivation of letters. The language of Provence had spread over Europe, it is true, and had acquired the reputation of the most perfect and musical on the continent; but when it ceased to be cultivated on its native soil, and, as Sismondi observes, became the language of funeral lamentation, it would have been unwise to expect it to be long retained at foreign courts. There was but one exception. Many of the Troubadours found refuge with the king of Arragon, who had been their ally against the Church. In that kingdom the Provençal language was retained and its literature cultivated. Many poets flourished, but never achieved the fame accorded their elder brothers. Still their poems possess a fascinating interest because they recall the memory of happier days—they are the inscriptions upon the tombs of the Troubadours.

GRANVILLE M. TEMPLETON.

JAMES RUSSELL LOWELL,

POET AND AMBASSADOR.

AN organization whose salient characteristic is harmony, distinguishes this eminent author. The face, in its outline, evinces the student given to calm reflection, the earnest inquirer who pursues his course quietly and apart from the busy haunts of men. There are indications of power of memory and of language, ability to analyze and criticise, and excellent powers of construction and of æsthetic appreciation. He is a natural student, eager to acquire information on all subjects, with a special inclination, as we infer from the contour of the forehead, for those which embody philosophical ideas.

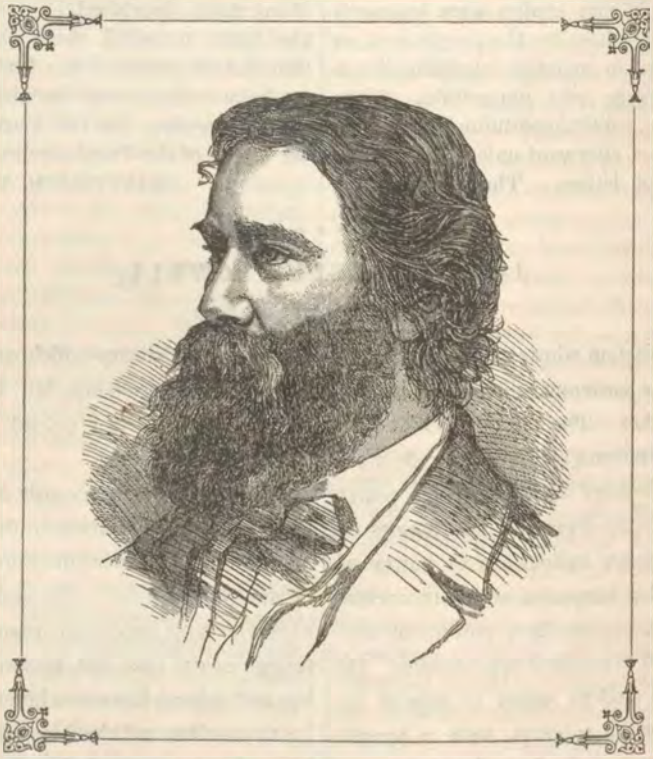
The nose indicates symmetry of development and a high order of refinement; at the same time it shows no little force and spirit as an element underlying or supplementing his quiet routine. He appreciates reputation and the favor of society highly, but is not the man to subordinate himself to others for the sake of their approbation. He has that delicacy which avoids conflict and open disagreements, but, when conflict is necessary, he can defend himself with vigor and good effect.

The appointment recently of Mr. Lowell as United States Minister to Spain is generally deemed a discreet measure on the part of our Government. The eminent literary men who have heretofore represented us in foreign courts (like Mr. Bancroft, Mr. Motley, and others) have won honor and esteem for themselves and the American name, and have shown that scholarship was by no means inconsistent with diplomatic capability.

James Russell Lowell was born at Cambridge, Massachusetts, on the 22d of February, 1819. His ancestor, Percival Lowell, was among the early colonists of New England, having emigrated from Bristol, England, in 1639, and settled in Newbury, Massachusetts.

Among the descendants of Percival were

many who held important relations, political and social, to the State. Charles Lowell, father of the poet, was an eminent clergyman. For fifty-six years he was pastor of one of the principal churches in Boston. James, the youngest of several children, was named for a great-grandfather, eminent as a judge. His boyhood was passed amid pleasant home and school associations. Cambridge fifty years ago was a rural village, embowered in trees and surrounded by flowery pastures, orchards, and woods. Now it is a city with upward of 50,000 inhabitants, in which the old simplicity is wanting. Lowell graduated in Harvard in 1838, then commenced the study of law, entered the Cambridge Law School, and was promoted to the bar of Boston in 1840.



In college he was noted for his wit and excellent conversational talent more than for a disposition to close study. He was a poet while a student, and was appointed to recite the class-poem in his last college year. After admission to the bar he opened a law office in Boston, not because he entertained any special fondness for the profession, but rather to please his father. A brief experience convinced him that he was ill-adapted to that vocation, and he abandoned it, devoting himself to literature. He wrote for the *Boston Miscellany*, a monthly magazine of high character.

In 1841 he published his first volume of poems, entitled "A Year's Life." In January, 1843, he commenced, in association with Robert Carter, the publication of *The Pioneer*, at Boston. Three numbers were issued, when it was discontinued, owing to the pecuniary failure of the project. Mr. Lowell ventured another volume of poems in 1844, through Mr. John Owen, the University bookseller of Cambridge. This volume contained a "Legend of Brittany," "Prometheus," "Rhaecus," and other pieces. This met with good success, and was reprinted in London.

The next year he issued a volume of prose, entitled "Conversations on Some of the

Old Poets." In 1848 he published a new collection of poems, together with "The Vision of Sir Launfal," which is, perhaps, one of the best, as it has been the most popular of his productions. During the Mexican war, 1847, he contributed a series of satirical poems, in the Yankee dialect, to the *Boston Courier*. They were fathered by one "Hosea Biglow." Subsequently, these and other like contributions were collected in one volume under the title of "The Biglow Papers." In 1848 the "Fable for Critics," an ingenious rhymed essay upon principal living American authors, appeared anonymously.

In 1852–'53 he visited Europe and resided some time in Italy. In 1855, on the resignation of Mr. Longfellow, he was appointed Professor of Modern Languages and Belles-Lettres in Harvard College. He then went again to Europe to perfect himself in his studies, which were prosecuted chiefly in Dresden, and returned and assumed his duties in the following year.

When the *Atlantic Monthly* was started in 1857, Mr. Lowell was selected as editor-in-chief, a position which he held for some years. Afterward he was, for several years, editor of the *North American Review*. His "Fireside Travels" was published in 1864; "Among My Books," 1870, and "My Study Windows," 1871, were made up of essays written for periodicals. In 1869 a volume of his poems, with the title "Under the Willows," appeared. In the same year was published "The Cathedral." After a second residence of two years in Europe, he returned home in 1874 to resume literary work with his wonted industry and enthusiasm.

During this visit, the degree of LL.D. was conferred upon him by the English University of Cambridge. Toward the close of 1874, President Grant tendered him the Mission to Russia, but it was declined, and George H. Boker, of Philadelphia, was appointed.

Mr. Lowell is a man of middle stature, of impressive and handsome appearance, with an organization which is marked for its special adaptation to literary pursuits. As a writer of verse no American poet has surpassed him in elevated and philosophic thought, or in accurate delineations of nature. As a prose writer he is vigorous, eloquent, clear, and critical, exhibiting a very broad range of peculiar and curious reading.

Upon receiving his recent appointment, Mr. Lowell resigned his Harvard professorship; but the Faculty decided to fill the chair temporarily, and refused to accept his resignation.

On his departure from Boston on the 16th of July, the poet was accompanied down the harbor by a party of 200 ladies and gentlemen, including many of Mr. Lowell's friends and associates in Cambridge, among them the well-known Emerson, Longfellow, Dr. Holmes, President Elliot, and Professors Lovering, Dunbar, and Pierce, of Harvard. There were also on board Hon. osiah Quincy, Colonels Hutchings, Rice, and Campbell, Rev. Mr. Savage, and others.

The friends gathered in the captain's cabin, where Dr. Holmes read a poem he had prepared for the occasion; and brief remarks, expressive of warm esteem for the new ambassador, were made by others.

In speaking of his characteristics, a writer says: "He does not write at a table, but seating himself midway between it and the fire-place in a broad easy-chair, he uses a stiff piece of pasteboard, resting it conveniently on his knee. His 'copy' is unpopular with printers for its many changes, erasures, and interlineations, though the writing itself is fair and uniform. He is a hard reader and student, and his classical knowledge is not excelled by that of any of the Harvard professors. He is quite a pedestrian, an angler, and a worker among his flowers, and, though not a rich man, has an income sufficient to enable him to be independent in authorship."

No one can follow the good who does not love it; no one can successfully avoid evil who does not hate it. The heart will overmaster mere resolutions and will betray one. If a citadel is to be kept it will not do to have inside one whose fingers are constantly itching to undo the gate and let the enemy in. Therefore, "hate the evil and love the good."

THE NEZ PERCÉS.

THE Indian troubles in Idaho have developed results which are almost parallel to the painful incidents of the Black Hills operations a year or so ago. The newspapers have given voluminous reports of certain operations on the part of the American forces against a redoubtable tribe, or a part of it, known by the name Nez Percés. The leader of the belligerent savages, generally known by the name of Joseph, has exhibited a wonderful degree of skill in avoiding and offsetting the maneuvers of our most experienced officers. In the early part of July a conflict occurred near the mouth of the Cotton Wood in



which Captain Joseph, at the head of less than a hundred braves, made a determined stand against a large force of regular troops, and impressed the American officers that they had another Captain Jack to deal with. A week later the Indians' camp was destroyed and the subjects driven across the river toward the mountains. But later, after we had been informed that Joseph and his band were pent up and disposed to make terms, a battle took place, in which the Government forces were sadly worsted. Terrible massacres of white settlers near Salmon River by these Nez Percés and other serious occasions are assigned as the immediate causes of the efforts of the Government to inflict a thorough castigation on the Indians who have been guilty of such outrages.

The fact is too much lost sight of in these Indian troubles that their rights are disregarded by settlers and frontiersmen; that solemn treaties or promises are neglected or ignored by the whites almost as soon as made. The Indian leader who has become familiar to us is not the real chief of the Nez Percés, but a strong, energetic fellow, who has gathered a band of warriors. They insist that their country has been invaded and occupied contrary to every principle of justice and law. It is claimed, however, on the part of the Government that Joseph's father, in connection with other Indian chiefs, released their rights upon the lands which are the theater of conflict, and that, therefore, his persistent occupation of them is against the rightful claims of the whites. The field of hostilities lies west of the Rocky Mountains near where the Salmon River joins the Snake. A part of it is a high plateau stretching between the Bitter Root Mountains and the Cascade range, a region in great part a desert, and not inviting, one would think, for white settlement.

The Nez Percés Indians possess features of special interest, from the fact that they are recognized as superior to most of the other Indian tribes of the Pacific coast. The name Nez Percés, which signifies pierced noses, was given them by the French of Canada, probably from an ancient custom of piercing or cutting the septum of the nose, which they do not now practice. The Indians call themselves Numepos, and belong to the Sahaptin family, which in its turn is related to the Chinooks, who live in their neighborhood.

The custom of head-flattening has been more or less practiced in some of the tribes of the Sahaptins as with the Chinooks. It is said, however, that the Sahaptins have not carried the practice of compressing the head so far as the tribes near the coast, they merely aiming to make the forehead more retreating, and this with the aquiline nose common to the natives gives them occasionally a physiognomy similar to that represented in the

hieroglyphic paintings of Central America. ("Pale's Ethnology.")

The observer finds that the inland tribes west of the Rocky Mountains possess a higher order of face than the coast tribes. The cheek bones are still high, the forehead is rather low, the face long, the eyes black, rarely oblique; nose prominent, frequently aquiline; lips thin, the teeth white and regular, the general expression of the features stern, often melancholy, but not, as a rule, harsh or repulsive; and dignified, fine-looking men, handsome young women are found among them; the complexion is not darker than on the coast, but is more of a copper hue; the hair is black, coarse, and worn long; the beard is very thin, its growth carefully prevented by plucking. Townsend in his Narrative states that the Nez Percés "are almost universally fine-looking, robust men, with strong aquiline features; a much more cheerful cast of countenance than is general among the race of the Sahaptins. Some of their women might also be called beautiful. None that I have seen are homely. While the Chinooks are generally of low stature, the Nez Percés are generally tall, athletic men, bordering on six feet in height." The engraving is a portrait of Quak-hum, the real Chief of these people.

The inland tribes appear to have less propensity to adorn themselves with painting than the Indians east of the mountains; but they not unfrequently mix red clay with vermilion, which is applied, as a rule, only to the face and hair. In their domestic arrangement, the style of dwelling and dress, they show decided superiority over both the Indians east of the mountains and those of the Pacific coast.

Although known as "rovers," the Numepos build themselves comfortable log shanties, and have fenced cornfields. After the planting season, they start off with their tepes, or skin tents, and lead a roving life until winter drives them back into their huts.

In contrast with the habits of the Chinooks, the Sahaptin house is kept free from vermin and filth. In his allusions to the Columbian and other tribes of the far northwest, Mr. Bancroft distinguishes between flat-heads and Nez Percés as if the latter were not to be properly reckoned among flat-head tribes. That the Nez Percés have lately shown a good degree of military ability is only too well known to our regulars, but authorities are generally agreed in ascribing to this tribe peaceful habits. Ross in his "Fur Hunters" states that they do not follow war as a profession, and can not be called a warlike race. They show skill in preserving and cooking their food, and while most of the Indian tribes surrender to the women the duties of digging for roots, picking berries, and other labors of the household, the Nez Percés men divide, to some extent, those labors. It is worth mentioning that their marital relations are rigid, and immorality, as it prevails to so unhappy an extent among the civilized, is almost unknown.

At Fort Wal-lu-la is the station where twenty years ago these people defended the Presbyterian missionaries from the attacks of other Indians.

AN IMPROMPTU.

It happened once, in Nature's wildest nook,
A little birdling fluttered from its nest
With thought intent to fly o'er vale and brook,
And give its love of life a better test.

It raised its timid wings for higher flight;
Then soon a swift, uncertain, canny note
(That strangely trembled on the breezy height),
Poured forth from that uncultured little throat.

The song then floated out and reached the ears
Of greater birds, who answered, on the wing:
"Oh, foolish birdling, hush; your youthful years
Should shame your bold attempt to fly and sing!"

It heard, abashed, then looking sadly grave,
As if its tiny heart were sorely tried,
One other feeble little note it gave,
Then slowly fluttered down, and quickly died.

. . . . . .

Oh, blame it not, nor call it foolish thing;
Nor say it never should have left the nest.
God knows why it was led to fly and sing,
And He'll reward it up among the blest.

E. MILES.

INSTINCT.

" Brutes find out where their talents lie ;
A bear will not attempt to fly;
A founder'd horse will oft debate,
Before he tries a five-barr'd gate."

THERE is, in the instructions we derive from examining the three great kingdoms of Nature, a trilogy which answers to the three-fold expression of life, and is largely realized when we turn our attention to the contemplation of reason, a true idea of whose forces is impossible until that instruction be listened to and applied. Mr. Griddon, that distinguished writer, gives three expressions of life, and, consequently, three great classes of vital phenomena. Those of the lowest degree of life, or the life of inorganic nature, are the domain of Chemistry and Physics ; those of the physiological, or organic expression, constitute the Instincts ; those of the spiritual degree, disclose Reason. The first, then, are identified with the mineral world ; the second with plants and animals, including the material body of man, and his temporal and terrestrial nature ; the third pertain peculiarly to himself, since he alone is concerned with the immortal and celestial. Each degree of life prefigures the next above ; chemical phenomena prefigure instinct, and instinct beautifully prefigures reason ; but like minerals, plants, and animals, which are their pictures, they are totally, absolutely, and persistently distinct, because between each there is a barrier of a discreet degree. Never, therefore, was there a greater mistake than that of Helvetius, Condillac, Smillie, and those other distinguished writers who contend that reason is no more than the *maximum* development of instinct ; in plain English, that reason means more instinct and instinct less reason. This is virtually to deny that there is any difference between man and brute, and thus to pronounce them both imperfect. There is not the least shadow of doubt but that the doctrine arose from the false notion of a continuous chain of being.

The full meaning of instinct is more than the performance of certain ingenious works, cognizable by our senses. Neither does it consist simply in those actions and trains of actions to which books on the subject of instinct ordinarily confine themselves—such as the nest-building of birds, and the hunting, by the new-born infant, for the mother's breast. For technical purposes, it may be policy to so restrict the term ; but, reviewed philosophically, instinct is co-ordinate and co-extensive with life itself. The actions, commonly called instinctive, are exhibitions, in a wider form, of the very same formative energy which previously molds the various organs of the body and maintains them in their functional activity. This is strikingly illustrated in the constructive instincts, such as impel the fabrications of coverings, clothing, and dwellings, all of which are a kind of ultimated and externalized organization. This instinct of which we speak is the general faculty of the entire living fabric, underlying and determining all activities which transpire, either invisibly in the organs themselves or as played forth to observation ; thus bearing exactly the same relation to the general structure which the constructive chemical forces bear to the crystal.

As a final summing up, instinct may be defined as the operation of Life ; it matters not whether promoting the health, the preservation, or the reproduction of an organized frame, or any part of such frame, and whether animal or vegetable. "The law of instinct," says the illustrious Mason Good, "is the law of living principle ; instinctive actions are the actions of the living principle, pervading and regulating organized matter, as gravitation pervades and regulates *un*organized matter, and uniformly operating, by definite means, to the general welfare of the human system, or the separate organs thereof, advancing them to perfection, preserving them in it, or laying a foundation for their reproduction, as the nature of the case may require. Its application is general, and is the same as regards plants as animals, and to every part of one as to every part of the other, so long as such part continues alive." *

* See " Book of Nature," Vol. II., page 80.

Virey uses similar terms: "Internal impulses of life constitute acts of instinct in plants the same as in animals."

We distinguish, therefore, two degrees of instinct: First, that of the interior functions, or of the mechanism or organization; secondly, that of the spontaneous outward impulses. Carus, also, when he calls upon us to observe how a plant "through internal instinct, and under external relations, unfolds itself from an obscure and insignificant end." Dr. Laycock, too, the eminent physiologist, writes to the same effect when he says: "Inherent in the primordial cell of every organism, whether it be animal or vegetable, and in all the tissues which are developed out of it, there is an intelligent power or agent, which, acting in all cases independently of the conscioùsness of the organism, and whether the latter be endowed with consciousness or not, forms matter into machines and machinery of the most singular complexity, with the most exquisite skill, and of wondrous beauty, for a fixed, manifest, and predetermined object: namely, the preservation and welfare of the individual, and the continuance of the species. This *quasi*-intelligent agent works with an apparently perfect knowledge of number, geometry, mathematics, and of the properties of matter as known to the human intellect under the term 'natural philosophy' or physics—that is to say, with a perfect knowledge of chemistry, electricity, magnetism, mechanics, hydraulics, optics, acoustics—but as far transcending the limited knowledge of the human intellect as the structure and adaptations of living organisms exceed in beauty and fitness the most finished works of man."

Between the work of simple vitality, or vital power, as it is customary to call it, and the externalized operations popularly understood by the term "Instinctive," there is thus no real difference but that of method and proximate object. It is the same force which first clothes the bird with plumage and then impels it to build its nest and line it with feathers.

J. F. ELSOM.

FACTS AND A REASON.—The newspapers say: "In that part of the Black Forest belonging to the grand duchy of Baden lies the petty district of Koenigsfeld, containing 410 inhabitants. During fifty years there have been in it no crimes or misdemeanors of any sort—neither transgressions of the police regulations, nor sheriff's sales, nor illegitimate births, nor divorces, nor lawsuits of any kind. Moreover, in these last fifty years at Koenigsfeld no one has ever got drunk or stretched out a hand to beg."

Does not the last sentence account for what is stated previously?

RELATIVE GROWTH OF BOYS AND GIRLS.—The following is a summary of results obtained by Dr. H. P. Bowditch, who examined 24,500 pupils in the Boston schools, public and private: He finds that up to the age of eleven or twelve, boys (of several races) are taller and heavier than girls, while for the next two or three years the tables are turned, the girls nearly completing their full growth, and after that the boys regain their ascendency; that at heights below 58 inches the boys are heavier than girls in proportion to their stature, while at heights above, the reverse is the case; that the children of American-born parents are taller and heavier than the children of foreign-born parents; that the pupils of American parentage, of certain private schools, surpass in these particulars the public school pupils, as well as English boys of about the same social grade. "It will thus be seen," says Dr. Bowditch, "that the theory of the gradual physical degeneration of the Anglo-Saxon race in America derives no support from this investigation." Our friend Dr. Nathan Allen's studies of vital statistics, based on the annual reports of births, deaths, and marriages in Massachusetts and Rhode Island, have established the fact that the fecundity of American women in these States is relatively much less than that of the foreign-born women in the same localities. We must thank Dr. Bowditch for showing that our Anglo-Saxon children are superior in quality, though relatively inferior in numbers, to the children born of foreign parents.



It is only by training all together—the physical, intellectual, and spiritual elements—that the complete man can be formed.

TEMPERANCE.

DR. B. FRANKLIN'S definition of temperance is: "Drink not to elevation; eat not to dullness." Properly speaking, temperance means moderation, not abstinence. Formerly in respect to alcoholic liquors this was considered the true idea of temperance. Modern temperance means abstinence from alcoholic drinks as a beverage. But there is a class of persons who maintain that the old idea of temperance is the correct one, and others claim that alcohol has no remedial or dietetic properties. Which of these have the truth? No two of them can be true. If one is true, the other two are false. They are incompatible with each other.

If the temperate use of alcoholic drinks as a beverage is good, then its abuse is no argument against its use. If it is an evil as a beverage, and a good as a medicine, then its use is limited to sick persons. If as a beverage and as a medicine it is an evil, then all use is abuse. Admitting the premises, no one can gainsay the conclusion in any one of the above cases. Now let us examine these incompatible positions and endeavor to ascertain which is the true one.

I. It has been urged that the moderate use of alcohol is "the golden mean between the two extremes," and that the major part of the intemperance of modern times is due to the immoderate use of these beverages. It is also said that in former times these liquors were of better quality than the ones now so generally used, and that much of the evil that is attributed to the use of these beverages is really due to their adulteration and not to the alcohol they contain. These arguments are apparently plausible. Immoderation is no argument against moderation. The ill effects of adulterated articles are not arguments against the use of the genuine. But prior to the acceptance of this view of the subject as conclusive, the primary question should be considered and decided.

This question is: Is alcohol an aliment or a poison? If reliance is to be placed on the authorities, there is no hope of obtaining a conclusive decision upon this subject. Many high authorities are found on both sides of this question. There is some weight and force in arguments drawn from the opinions of men of distinction, but they can never be regarded as conclusive.

But if we look to Science—the interpreter of Nature—there will be no great difficulty in obtaining a correct solution of this vexed question. Science teaches, and that truly, that plants are the sole producers of nourishment, and this by the processes of growth and development. Alcohol is not produced in this way; hence alcohol is not an aliment. Alcohol is a product of decomposition or decay, which is not a food-forming, but a food-destroying process.

Again, What are the effects of alcohol when taken into the body? Dr. B. W. Richardson, a distinguished observer, says: "The well-proven fact that alcohol, when taken into the body, reduces the animal temperature, is full of the most important suggestions. It shows that alcohol does not in any sense act as a supplier of vital heat, as is commonly supposed, and that it does not prevent the loss of heat as those imagine 'who take just a drop to keep out the cold.' It shows, on the contrary, that cold and alcohol in their effects on the body run closely together, an opinion most fully

confirmed by the experience of those who live or travel in cold regions of the earth.

"On the muscular force the very slightest excess of alcoholic influence is injurious. I find, by measuring the power of muscle for contraction in the natural state and under alcohol, that so soon as there is a distinct indication of muscular disturbance, there is also indication of muscular failure; and if I wished by scientific experiment to spoil for work the most perfect specimen of a working animal, say a horse, without inflicting mechanical injury, I could choose no better agent for the purpose of the experiment than alcohol. But, alas! the readiness with which strong, well-built men slip into general paralysis under the continued influence of this false support, attests how unnecessary it were to put a lower animal to the proof of an experiment. The experiment is a custom and man is the subject."

Any substance taken into the primæ viæ, or digestive apparatus, that reduces the animal temperature and produces muscular failure, as has been well-proven that alcohol does, is surely not beneficial, but only injurious to the healthy organism in which it is introduced. Truly, poisons are those materials that are rejected from the vital domain, and foods are those substances that are usable in the construction and replenishment of the bodily organs. Alcohol is a non-usable thing, as has been proven; a substance which the living system is obliged to resist and expel. The depression, want of muscular power, and disordered condition of the living system, as results of the use of alcohol, are the signs of overworked organs engaged in the disposition of this poison.

Dr. Markham, of the *British Medical Journal*, says: "None of it (alcohol) so far as we know, is assimilated or serves the purposes of nutrition. It is therefore not food in the eye of science."

According to my judgment the above facts conclusively prove that alcohol is neither an aliment nor a wholesome drink, and that its relation to animated life is an abnormal one. Hence moderation in that which is injurious, *per se*, is not good, but is an evil. With this view of the subject there can be no utility in the temperate or moderate use of alcoholic beverages. It is all evil; the good consists in abstinence. Instead of temperance societies let us have abstinence societies.

II. The modern view of temperance indorses alcoholic medication. This brings us to the consideration of the subject of stimulation. Most medical authors and teachers define stimulation to be an exaltation of organic action; an elevation of the powers of the economy to the normal standard. Stimulants do surely produce an exaltation of vital action; and also an elevation or augmentation of the action of the organs of the economy; but how such exaltation and elevation tend to establish a normal condition of things, is not so easy to perceive. If life is a forced state, as was claimed by Dr. Brown long ago, then this view is correct. But no one in these days claims or believes life to be a forced state. It is a conditional state dependent upon fixed relations or laws. This definition is too apparent to need any illustration or demonstration. All stimulation is a goading or whipping of the vital organs into action. Alcohol is a poison—a non-usable thing. Hence vital action produced by alcohol is one of resistance.

It is asserted that alcohol is an antidote to the poison in the system in typhoid and typhus fevers. Surely no one knows the exact character of "typhoid" poison as it is called, therefore upon what grounds is its use predicated? It is merely tentative or experimental. There is ample testimony that has been given to the public by honest and candid observers that favors the non-utility of alcohol as an antidote or in any form as an adjuvant in the treatment of said maladies. Several physicians have told me that their typhoid patients did better without these stimulants. I recall several cases that came under my own observation that were treated without alcohol in any form, and their recovery was not followed by any of the sequels that so generally follow this disorder, while some others in the same vicinity who were treated in the ordinary way, did not survive and the remnant that received like treatment had a linger-

ing convalesence. If our view of stimulation is correct, where is the philosophy and reason that indicates the use of alcohol in diseased and debilitated conditions of body?

On this point Dr. B. W. Richardson says: "When it is physiologically understood that what is called stimulation or excitement is, in absolute fact, a relaxation, I had nearly said a paralysis of one of the most important mechanisms in the animal body, the minute resisting, compensating circulation—we grasp the error in respect to the action of stimulants, in which we have been educated, and obtain a clear solution of the well-known experience that all excitement, all passion, leaves, after its departure, lowness of heart, depression of mind, and sadness of spirit.

"It is assumed by most persons that alcohol gives strength, and we hear feeble persons saying daily that they are being kept up by stimulants. This means actually that they are being kept down; but the sensation they derive from the immediate action of the stimulant deceives them and leads them to attribute lasting good to what, in a large majority of cases, is a persistent evil. The evidence is perfect that alcohol gives no potential power to brain or muscle. During the first stage of its action it may enable a wearied or feeble organism to do brisk work for a short time; it may make the mind briefly brilliant; it may excite muscle to quick action, but it does nothing at its own cost, fills up nothing it has destroyed as it leads to destruction."

Dr. Richardson further says: "There are times in the life of man when the heart is oppressed, when the resistance to its motion is excessive, and when blood flows languidly to the centers of life, nervous and muscular. In these moments alcohol cheers. It lets loose the heart from its oppression, it lets flow a brisker current of blood into the failing organs, it aids nutritive changes, and altogether is of temporary service to man. So far alcohol is good, and if its use could be limited to this action, this one purpose, it would be among the most excellent of the gifts of nature to mankind."

"Consistency, thou art a jewel." But where is the consistency of this writer? He favors the use of alcohol for lowness of heart, failing action of organs, and depression—the very conditions he demonstrated that alcohol produces. Can anything cure or heal that which it causes? Such is the philosophy of the Homeopathic sect. *Similia similibus curantur.* This compromise position has the same foundation in science as the above medical *dictum.*

On this subject Prof. Miller, of Edinburgh, Scotland, says: "Alcohol cures nothing; it covers up a great deal."

Dr. Guthrie, of the same city, said: "If you want to keep a dead man, put him in whisky; if you want to kill a living man, put the whisky into him."

Dr. Beaumont, of Bradford, England, says: "That its (alcohol's) apparent 'support' is nothing more nor less than fever produced by the poison, which, instead of sustaining the patient, only prostrates him the more."

These quotations show that a portion of the medical fraternity appreciate this absurdity of trying to discriminate between alcohol as a beverage and alcohol as a medicine. In the face of these admissions and facts it is reasonable to infer that alcohol is not good for the well nor for the sick. Alcohol as an antiseptic and in the chemist's laboratory is surely a substance of much value. Its use is outside of the living organism.

III. Lastly, the ultra or radical view is the truly scientific position of alcohol.

This subject has several legal positions, that have their respective supporters as well as those we have cursorily considered. Much has been said in regard to license and prohibition laws. One faction argue that prohibition is the proper legal position. Another claims that the liquor business should be allowed or prohibited in any community as the majority of the citizens of said community may direct. Still another claims that this business should be allowed to exist upon the same foundation as any other business, subject to the laws of supply and demand.

Now it is not so very difficult to perceive which is the proper method of procedure in respect to the liquor traffic, from a legal

stand-point, so long as we keep in view the cardinal principles of our Republic. In our government the will of the majority is the law. It matters not whether said will is true or false in the eye of science, it is the law of the land and should be obeyed. Any other course of procedure is subversive of all law and order so long as the present form of government exists. Hence the regulation of the liquor trade depends upon the will of the people. If they say prohibition, then prohibition is the law. If they say this business may exist, provided it complies with certain conditions, such is the law. There is no other mode of procedure to adopt that is compatible with the spirit of our institutions and the principles of our government. If the law is on the false side, then the majority of the people are in the same condition. To change the law we must first change the people—the indirect makers and direct supporters of the law. Old laws remain in force until set aside or superseded by new. Truly, the legal position of alcohol depends upon the will of the people. If their decision is not in harmony with science, it is nevertheless the correct legal position of the liquor business. Legislative enactments have little force or utility when they are not supported by the people.

What is generally taught is generally practiced; so, much of what is true or false in any age is in a great part a mere matter of education. So difficult is it for any one to unlearn what they have at one time learned, or disbelieve what they at one time believed, that few persons depart from the path of their training and education. Hence this notion that alcohol does not give strength and does not support vital heat is so opposed to established usages and in direct antagonism with the general habits, customs, education, and prejudices of the people, that most persons will demand reasons the most profound, and evidences the most conclusive before they can be induced to renounce the teachings of education and the habits of long established customs. All that is necessary or is proper to be done now is to commend these great truths to the thoughts and feelings of our fellow-men in such a manner that they will consider and understand them and then exemplify them in their lives.

In view of all the facts in regard to the alcoholic controversy, both scientific and legal, it is evident that the truth in respect to this subject as well as all other subjects, will be discovered and accepted in proportion to the degree of the intelligence that humanity attains in any age or period of time.

JOHN G. STAIR.

THE TEETH--GROWTH AND PRESERVATION.

THE notion of beauty differs under the different zones and among different nations. The European lady pities the Chinese one for her crippled feet, on which she is only able to walk imperfectly; whereas the Chinese lady of fashion would be amazed at the crippling which our fashionable ladies effect by the use of the corsets. On the banks of the Ganges one colors the nail of the fingers, and a fashion of the Botocudos demands the piercing of the lower lip, as we pierce the ear-lap. Why should we wonder that wild nations consider white teeth ugly, and that they therefore stain them brown or black so as to harmonize them with the color of their body. The Javanese go so far as to cut with a file the incisors and eye-teeth of their youth of fourteen or sixteen years down to the root. Not before this very painful operation has been performed in front of the assembled family, is the Javanese boy considered independent, can appear as witness before the court, or make contracts — in short, by the loss of his teeth he gains in his tribe the citizenship.

"I had," says Dr. Friedman, "a handsome Javanese boy as a servant, who once asked me for a few days leave of absence, as his teeth had to be filed off. I tried to persuade him to save his very nice and white teeth, but in vain; he seemed to rejoice in the idea of the operation just as a young lady rejoices at the prospect of her first entering a *salon* A few days afterward he

returned disfigured, with great gaps, inflamed gums, and an appearance of age."

The teeth among civilized nations are esteemed for the aid which they give in speaking, in the forming of the face, and in

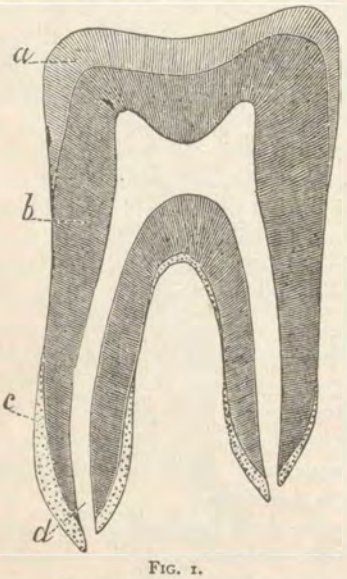


FIG. 1.

Vertical section of a molar tooth (magnified 5 times); *a*, the enamel; *b*, the toothbone; *c*, the cement; *d*, opening for the tooth germ.

the mastication of food; but wild and uncivilized nations use their teeth like animals, as well for weapons as for tools, for defense as well as agents for mechanical labor. When, therefore, a nation relinquishes their brutal uses voluntarily, it steps up to a higher degree of civilization. Perhaps some Javanese Moses or Solon, as a wise lawgiver introduced the heroic custom to which we have referred to civilize his nation; so, what we consider a barbarism may be indeed an expedient of civilization.

The necessity of any part of our body may be measured by the time it takes for development. The more necessary certain limbs are for a child's existence, the quicker they grow themselves. Therefore the brain and the spinal marrow rank first of all parts of the human and animal body in importance of development, just as it is the most important in relation to existence. Next in order of development comes the heart. The first bone which is formed on the skeleton of the child is the lower jaw, because the child needs it for suckling as soon as it is born. The lower jaw contains almost all the teeth, after the birth, which the future man needs. In the cavity of the mouth of a full-grown man we find thirty-two teeth; in the upper as well as in the lower jaw there are four incisors, two corner or canine teeth, and ten molar teeth, of which five are on each side. The incisors have a wide and chisel-like crown; one can easily see that they are for the cutting of the food; their roots are simple, of medium size and of the form of a turnip. The corner or canine teeth have a pyramidal crown; their roots are also simple, but much longer than those of the incisors; from this fact the superstition originated that their roots are in connection with the eye, and that all disease of these teeth is very dangerous for children. Of the molar teeth a distinction is made between the first two on each side with two roots, and the three behind ones with tricloven roots. The last molar tooth, which

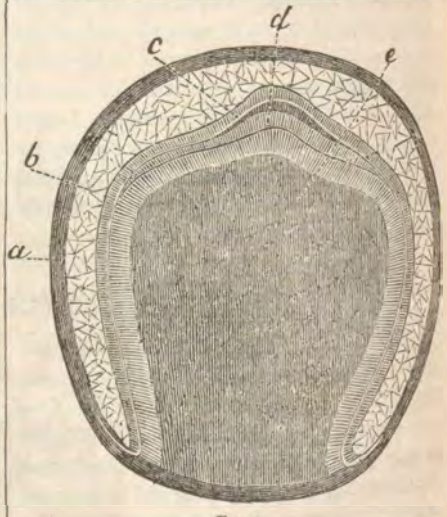


FIG. 2.

Tooth pouch of the second cutting tooth, a month before the birth of the child (magnified 15 times); *a*, the external tooth pouch or sac; *b*, the germ for the enamel; *c*, the already formed enamel; *d*, the already formed toothbone or ivory substance; *e*, the germ for the toothbone.

usually breaks out about the twentieth year, is called the "wisdom" tooth; all molar teeth have a broad, stamp-like crown.

The tooth is composed of different parts. If we cut an incisor or molar tooth horizon-

tally, we find the following form: *a*, uppermost there is a kind of a capping of a hard yellowish white substance—the enamel; *b*, the mass of the tooth, which consists of a white silky-looking substance—the real tooth

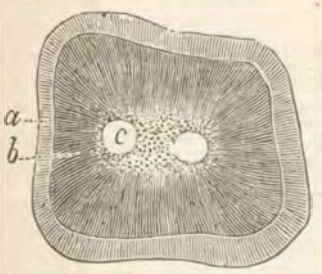


FIG. 3.

Horizontal section of a molar tooth (magnified 5 times); *a*, the enamel; *b*, the toothbone; *c*, the cement; *d*, the opening for the tooth germ.

substance, or the ivory; in its cavity (wherein the germ of the tooth is located), and externally thereon, is, *c*, a white transparent mass, of a bony-like substance, which is called the cement. All these parts have a different construction. If we examine the enamel through the microscope, we will see that it consists of four, five, and six-sided long threads; these threads are twisted around each other in manifold windings, are broad, and show besides cross-lines. The tooth substance consists of thin, but little twisted, often straight, running tubes, which are round and transparent, and have in a good light a silky brightness. But there is a difference in its chemical construction; the enamel consists of 88 parts of phosphate of lime, 8 parts of carbonate of lime, and 4 parts of animal substance; the tooth substance, on the other hand, has 28 parts of animal matter, only 64 parts of phosphate of lime, and but 5 parts of carbonate of lime. The cement, the bony substance of the tooth, has in part a homogeneous mass, and in part consists of what are called bone corpuscles; this substance contains the most animal matter, namely, 42 parts; phosphate of lime, 53 parts; and only 3 parts carbonate of lime. In the interior of the full-grown tooth lies the remainder of the former tooth germ, the tooth pulp; this is the most sensitive part of the tooth.

Man has at the time of his birth twenty rudimentary teeth; these are called the milk teeth, which in course of time are loosened and drop out, to make room for the permanent ones. In the third month of the embryonic life the tooth germ commences to develop itself. In a horizontal section of the lower jaw we find small sacs of two or three lines measurement only; these are the first rudiments of the future teeth. In the fifth month the ossification commences; and if at the time of the birth the jaw be examined, the sacs will be found considerably enlarged, and divided by partitions, each containing two sacs; the upper one forms the enamel, and the lower one contains the tooth germ, in which the real tooth substance is secreted. At the bottom of the sac rises the future tooth germ, like a bud; it grows and secretes the tooth substance outwardly and toward the top. Above this

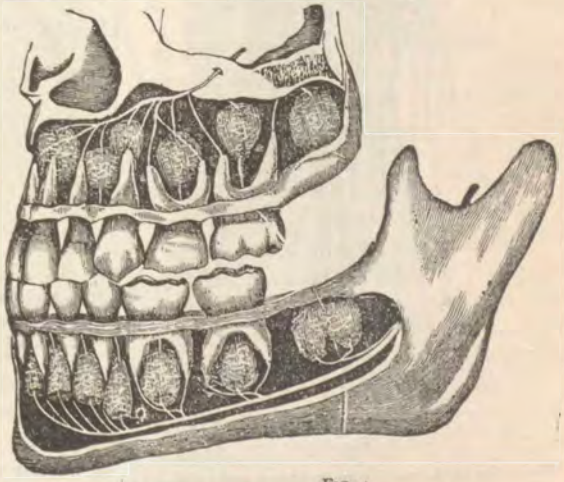


FIG. 4.

Upper and lower jaw of a child, showing the relative position of first and second teeth.

lies a second sac; the little tooth grows into this second sac, which forms a kind of a cover, and this develops itself as the enamel. As the tooth germ with the secreted tooth

substance adjoins the enamel, they combine, and the tooth presents itself in its first formation. The tooth germ increases in all directions, and ossifies on the surface. While it secretes bone substance outward, it diminishes continually; and finally the bone substance of the tooth has compressed the tooth germ into a very small place; it has outwardly secreted more and more tooth substance, and there is finally only a small space left for it in the middle. When now the tooth is pretty well developed, it gradually breaks through the jaw. The upper edge of the jaw in children is usually covered with "tooth flesh."

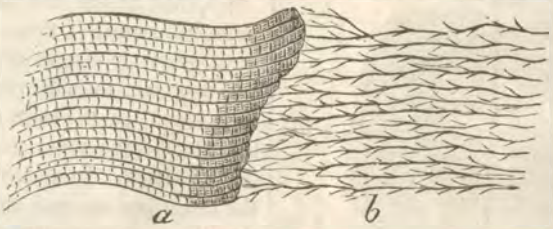


FIG. 5.

Toothbone and enamel in their respective connection (magnified 350 times); *a*, enamel fibers; *b*, tooth tubes with many branches.



FIG. 6.

The tubes of the tooth germ, prepared and isolated by application of acids (magnified 350 times); *a*, piece of the wall of the tooth-germ cavity; and *b*, the free tubes.

In the lower jaw of the new-born child the *tooth germs* and *tooth sacs* lie in cavities. Below those teeth which first break out are yet the germs for the second teeth. The lower incisors are the first in breaking out; then follow the upper ones; and then the other teeth. The shedding of the milk teeth sets in at the seventh year, and, with the exception of the wisdom tooth, generally terminates with the fourteenth year. During this shedding the milk teeth drop out, because the germ of the same is pressed and absorbed by the advancing second tooth. This pressure makes the shedding of teeth sometimes painful.

The incisors need for their perfect development seven years; the eye-teeth eight; and the first molars ten; and the second molars twelve years. When the milk teeth first commence to break through, their pressure on the gum causes an inflammatory state, therefore more saliva is secreted, and the child puts his fingers into the mouth. It is too much the practice, especially in England, to facilitate the breaking through of the teeth by lancing the gum. The old custom of giving to teething children hard things, as orris (florentina), cocoanut, rubber rings, etc., for biting or rubbing the gum, is wrong; it may relieve the irritation momentarily, afterward the pain increases greatly. The natural and most effective



FIG. 7.

Surface of the enamel, with the free ends of the enamel fibers, so as to show their sexangular sectional plan (magnified 350 times).

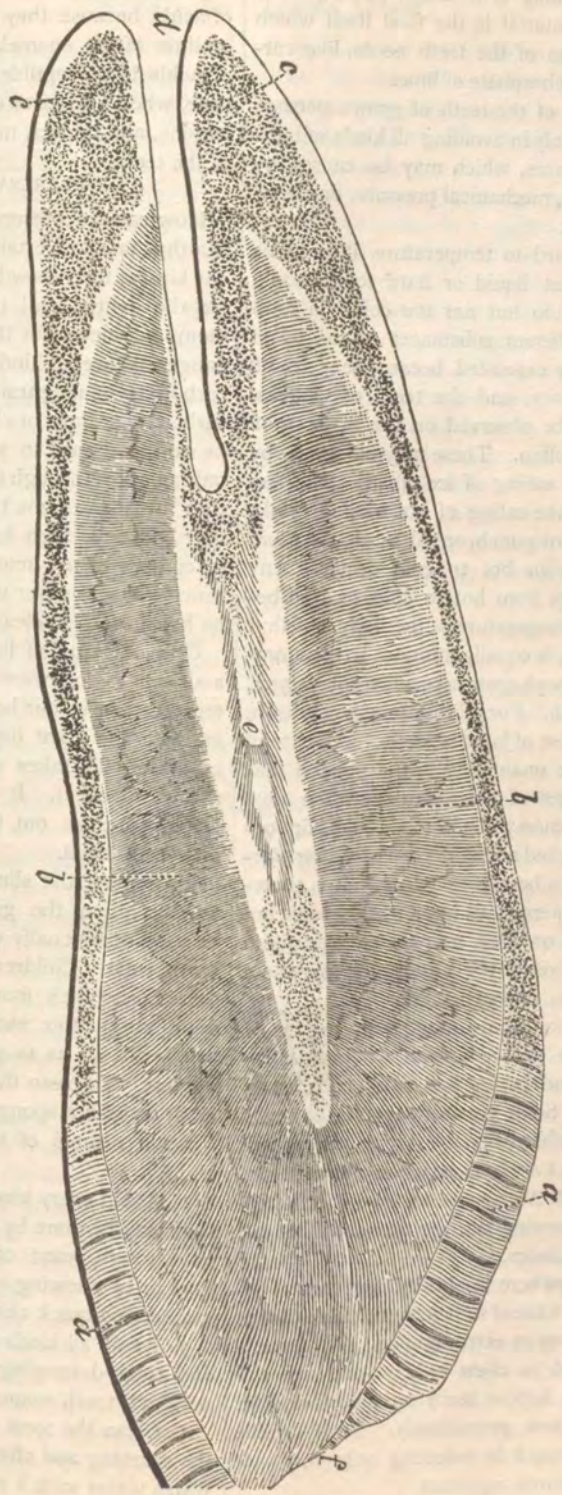


FIG. 8.

Vertical section of an incisor (magnified 15 times); *a*, *b*, *c*, and *d*, as in Fig. 1; the cavity of the tooth germ is already greatly diminished, by the growth of the tooth, as is always the case in advanced age; the masticating surface is also much worn off, the enamel thereupon is gone.

help in teething is to assist the organism with such material in the food itself which the formation of the teeth needs, like carbonate and phosphate of lime.

The care of the teeth of grown persons consists mainly in avoiding all kinds of injurious influences, which may be caused by temperature, mechanical pressure, or chemical matters.

1. In regard to temperature, it is to be observed that liquid or hard food should neither be too hot nor too cold; in both cases the different substances of the tooth are unevenly expanded, because they are of uneven density, and the teeth get cracks, which can be observed on the incisors of ladies very often. These may be caused by the careless eating of ice cream. Not less injurious is the eating of hot soup or drinking coffee, hot punch, or still more, the rapid changing from hot to cold drinks. Any quick change from hot to cold, or even between the temperature of the body and that of the drink, is equally injurious to the stomach, the œsophagus, especially the larynx, and the teeth. For all the three it is poison, and the cause of later sickness. All careful dentists are unanimous in the opinion that rapid changes of temperature are the most dangerous enemy of the teeth, and Hippocrates remarked: *Frigidum inimicum dentibus* (cold is hostile to teeth). It is therefore a very pernicious habit to take after hot tea, coffee, or soup, something cold; more dangerous yet is the incautious enjoyment of ice cream, of sherbet, etc.

2. Another disadvantage to the organs of mastication proceeds from *mechanical influences*, and indeed just as much from *too little use*. Some persons demand too much of their teeth, when, for example, they crack the stones of apricots, peaches, cherries, etc., with their teeth, or extract corks from bottles, or in sewing bite the thread off instead of using scissors.

As everywhere in physical and mental respects, the want of sufficient exertion is about as pernicious as extravagance. Whoever is accustomed to chew only on one side will soon have hollow teeth on the other side, and lose them prematurely. To spare the teeth too much by selecting only very soft food, is likewise injurious.

3. Most dangerous especially are all kinds of acids, because they affect the carbonate of lime of the enamel. The bad influence of acids is perceptible in summer and fall time, when a too free use of grapes, apples, lemons, and berries, may injure the enamel of the teeth.

PRESERVATION.

How can we preserve now our teeth in a healthy state? Certainly not by the use of any kind of tooth-powder, which is only good for the dentist and the druggist who sell them, but never for the patient. Likewise dangerous are all kinds of alkaline earth, as carbonate of magnesia, carbonate of soda, carbonate of lime, or chalk. The same is to be said in regard to soaps, which will have only an effect through their alkaline reaction; they are at the same time disgusting; whoever has once seen how most of the soaps of commerce are manufactured out of old rancid fat will never use them any more, if he has an idea of cleanliness left.

Only one kind of liquid is useful to teeth, and this is lukewarm water, of the same temperature as our body; one will perceive at once the right degree of warmth, as a mouthful of it taken will cause neither cold nor warm effect. It should never be neglected to clean out the mouth thoroughly after each meal.

To remove the slime from the teeth, and to strengthen the gum, burnt alum may be used occasionally with water and a good toothbrush. Children ought to be accustomed from their fourth year to brush their teeth daily after each meal with a small soft brush, so as to get used to it for their lifetime. To clean the teeth with a piece of cloth or with a sponge is useless.

As a resumé of the foregoing, we will add:

1. Avoid every kind of mechanical injury that may be done by biting on hard objects, as through want of exertion in chewing food or by chewing on one side only.

2. Avoid quick changes of temperature.

3. Avoid all kinds of chemical substances and teeth-destroying acids, as the alkaline powders, tooth soaps, and tooth pastes.

4. Clean the teeth daily and thoroughly in the morning and after every meal with lukewarm water with a moderately stiff brush.

OPPOSED TO FLESH-EATING.

WE find that the discussion of the propriety of using flesh as human food is growing, and much attention is given it in the press at large. Some articles which have appeared in *The Household* recently have taken strong ground against the carnivorous habit, and must please the strict hygienists. One of these articles, by Mr. G. J. Colby, we copy in part:

"There was no violence in Eden! Gridirons and slaughter-houses were not among its furniture! And even after the sad disobedience and fall of our first parents, when, driven out from the beautiful garden, they were not allowed to kill and eat the flesh of animals, but commanded to till the soil and eat the 'bread' raised therefrom by their own labor. Nor does the history of the race, for near two thousand years, give any intimation that flesh was used for food. But it does indicate good health, long life, robust sons and fair daughters, as the result of proper food.

"After the flood, flesh-eating was allowed. And, as a natural consequence, the age of man reduced to one hundred and twenty years. Diseases of various kinds multiplied. Doctors of medicine were in demand, but, in spite of all they could do, as mankind became more and more addicted to the savage custom of flesh-eating, their average term of life grew less, until it was little more than twenty years. Then commenced a reform, which has, already, doubled the average length of human life. And which, if continued, may double it again in a few generations.

"The Bible mentions three worlds, as the abiding-places of the human race: past, present, and future; the world that was before the flood; 'this present evil world;' and 'the world to come.' All Bible religionists will agree that flesh-eating was not allowed in the first, and will not be in the last; but only exists as one of the bad habits of this present evil world.

"We have the record of Bible history as to how the first change was effected; but there is such a difference in views as to the manner of the second change, from the present to the world to come, that we are puzzled to know just what to expect, or how to interpret the promises, prophecies, and revelations, as to the 'new earth wherein dwelleth righteousness.'

"But however the change may be accomplished—whether by a sudden transition, at the second coming of Christ; or by reformations produced by the universal preaching and acceptance of His Gospel; or by the absence of evil when Satan is bound for a thousand years; or by the increase of knowledge, scientific improvement, and reform—it matters little, so long as we are agreed that flesh-eating was not allowed in 'Paradise Lost,' and will not be in 'Paradise Restored.' We can stand with one foot upon each of these great truths, while we consider the propriety of its use in the present time.

"And the fact that it is only allowed in this present evil world, along with other bad habits and customs—the use of strong drink, slavery, polygamy, etc.—which can only claim the negative sanction of Scripture, is strong presumptive evidence that it is not a good or necessary habit, and gives as good a 'warrant' for denunciation as we have for the other customs, which are now considered sinful by most Christian people.

"It is no more singular that those who are in the habit of eating flesh should think that they feel the need of it, than that those in the habit of using tobacco, beer, etc., should feel such need. Nor is it strange that erroneous opinions should so generally prevail in regard to flesh as food. It is the natural result of ignorance and want of thought. And such opinions will continue to prevail so long as people refuse to read, think, and talk upon the subject. Many good people really think they need flesh food in cold weather, to keep them warm. But lean meat is one of the poorest of foods for that purpose.

"Dr. Hanaford, in the article on 'Spring Diseases,' in the May number of *The Household*, names 'the sweets, the starch and the oils,' as the three best classes of 'respiratory' or heat-producing food. And

of these, the last, including meat fats, is condemned as the worst. So meat is not needed for heat. And to suppose it is a good food to give strength, support and build up the system, is another gross popular error. It is both poor and impure in quality, and at best but a second-hand article; having been once digested and re-organized in the animal body. The natural course of evolution brings the dead, inert mineral and gaseous matter up through the vegetable to the animal organization. Without the vegetable the animal could not exist. For the animal stomach can not digest, nor the animal organization assimilate, dead matter. Everything must first be digested and organized in the vegetable. Then the animal can take it, redigest and re-organize it into the animal form.

"And now we come to the most important fact in the evolution of matter. It has reached its highest point of organization. Having been twice digested and twice organized in a living form, it can go no higher! But immediately it begins to disorganize and go back to its original condition of dead matter. This process is constantly going on in the animal body; and while one system of tubes is carrying the food throughout the body, to build up and organize flesh, another system is employed in carrying out the disorganized, broken-down, dead matter. And as this last system of tubes must reach and permeate every part of the body, and be always more or less filled with dead matter, it follows that flesh meat must always contain more or less of such impure matter, which can not be again used in building up the body, and when taken as food can only serve to load the blood with impurities, and clog the depurating tubes.

"It is not therefore proper or fit that matter should thus pass more than once through the animal organization. And when it does, there must of necessity be more or less trouble caused by it. I think nearly all diseases that mankind are afflicted with, have been produced by this pernicious, unnatural habit of flesh-eating—using the same food over and over until a large part is disorganized, and the whole saturated with dead matter and infected with disease. Once is enough! When the animal dies, let its flesh go back through the cleansing processes of nature, and come up again in its pure form as a vegetable before we use it as food."

THE DISEASES OF GREAT MEN.

SOME of the most illustrious men and women have been the victims of maladies of the nervous system. In almost every treatise on epilepsy, Cæsar, Mahomet, Petrarch, Napoleon, and Byron are mentioned as having been subject to this disease. It has been supposed by some that "the thorn in the flesh" of Apostle Paul was his liability to epileptic attacks. Henry IV. of England, after some time of ill health, became subject to dreadful fits, which would cause him to fall down apparently dead. These were undoubtedly epileptic in character. On the 20th of March, 1413, while he was at church, he was seized with a fit and soon expired, being at the time forty-seven years old. Charles II. of England, in the midst of a life of vicious indulgence, was attacked by apoplexy, and died after a few days' illness, on the 6th of February, 1685, in the fifty-fifth year of his life. Leonard Euler, while playing with one of his grandchildren, at the tea-table, was seized with an apoplectic fit, and died in a few hours, at the age of seventy-six. Among the apoplectics we have such notable characters as Dickens, Thackeray, and Napoleon I. Sir Charles Bell died on June 12, 1842, of angina pectoris. He awakened with a frightful spasm of angina, asked to be supported, and immediately expired.

History furnishes abundant evidence of the frequency of affections of the mind among the magnates. Bishop Warburton, John George Zimmerman, Dr. Johnson, James V. of Scotland, King Henry of England, Queen Elizabeth, Frederick II. of Prussia, were all the victims of melancholia; Queen Francisca of Portugal, George III. of England, Tasso, Pascal, William Collier,

Cowper, Charles XII., and Dr. Johnson were subject to attacks of insanity; Victor Amadeus I. of Sardinia was a victim of kleptomania. Of the three disputed discoverers of modern anæsthesia, Wells died of insanity, Morton from a stroke of apoplexy, while Jackson is hopelessly insane. Dr. Adam Clarke died of cholera; Oliver Cromwell, of ague; Robert Duke, of starvation; Sir Humphrey Davy, as a result of injuries to an elbow; Alexander the Great, of malarial fever; Augustus II., of grangrene of an old wound; Camillus, of the plague; Chaucer, of old age; Queen Mary, of smallpox; John Racine, of abscess of the liver; Dr. Wm. Hunter was subject to gout, but during one of these attacks he was paralyzed and shortly died; Napoleon III. died of embolism; Prince William, of England, and Shelley were both drowned; Thomas Chatterton and the wife of Shelley committed suicide; Lord Byron fell a victim of remittent fever; John Keats, Edward II., and Lænnec were destroyed by phthisis pulmonalis. Professor Dunglison perished from disease of the heart; John Locke was a sufferer with asthma; Burns shortened his days by his excesses; Southey was demented; Jeremy Taylor died of some fever; John Bunyan died in 1688, in London, it is said, in consequence of a cold caught in a journey undertaken by him in inclement weather, with the object of reconciling a father and son. Thomas Otway, perhaps, choked. "His death has been frequently cited as a striking instance of the miseries of a literary career. It is related that, when almost starving, the poet received a guinea from a friend, on which he rushed off to a baker shop, bought a roll, and was choked while ravenously swallowing the first mouthful." Louisa, daughter of George II., when Queen of Denmark, died of an operation for hernia, at the early age of twenty-six. Queen Caroline, her mother, also died of hernia, after an operation by the celebrated Ranby; and Caroline of Brunswick, wife of George IV., fell a victim to strangulated umbilical hernia. In regard to Washington, the weight of authority is in favor of the view that the cause of his death was œdema of the glottis rather than croup, as is so often stated.—*Medical and Surgical Reporter.*

In scanning the above the reader conversant with the principles of hygiene and physiology can infer the occasions for many of the diseases mentioned, as they arose mainly from ignorance or disregard of the laws of health.

THE ECONOMY OF FORCES.

In our Line—Intelligent Planning—Canning Fruits—Young Housekeeper—No Allowance for Sickness—"Carrying Stock"—Nature's Cleaning Up—Watch your Grains—How to Think in Time—True Time-Saver—Noiseless Housekeeping—The Cooking Economy of Thought—Economize Wisely.

I AM aware that this is a very learned expression, or that it is used to express some wonderful processes or conditions of nature which the learned alone are supposed to be able to appreciate. I will hasten, then, to announce that I do not propose to go into any abstruse and learned investigations, though I would be glad enough to be able to do so. I doubt not my usual readers would take great delight in pursuing the demonstrations that nothing in nature is lost; that light may be converted into heat, and heat into motion; that the very food which is grown so lavishly for the use of the animal world, if not used in due time is taken to pieces and its elements are distributed in the best shape and placed where they will be taken up and incorporated in another year's growth of food, thus keeping up a continually recurring supply of food in its best and freshest condition, with the least possible waste of materials in its manufacture. Many charming illustrations of the perfection of Nature's housekeeping in this little world of ours would prove both pleasant and profitable subjects of thought to us housekeepers on a smaller scale; but for the present we propose to apply what we do know to the economy of forces directly

IN OUR LINE.

I suppose it would surprise you a little if I should say that the most economical among

us are exceedingly extravagant, especially since we all believe that women are, both by disposition and practice, far more economical than men. But it is because I believe this that I address to the women especially, as being the best able to reduce them to practice, some stray thoughts and suggestions that have long been running in my head, and though they may not all be new or fresh to any one, they may still start some poor tired lady into helpful lines of thought. And both as specimen and illustration, I may at this period of the ingathering of the food products of another season suggest the desirability of

INTELLIGENT PLANNING

of living for the coming year. If you live in the country (which is the normal place for man to live), there are certain supplies which you must lay in during the season of their abundance. As it is not necessary under ordinary circumstances for you to lay up all you can get, nor perhaps all you have more than your present wants demand, you are called on to decide how much you will need before the commencement of another period of supply, that you may put what you need in good keeping condition and dispose of the surplus. This work you have already commenced by

CANNING OR DRYING

such fruits as have already had their day for this year, such as strawberries, cherries, currants, raspberries, whortleberries, plums, and perhaps peaches and tomatoes, not forgetting some pie-plant, both for drying and canning. The quantities of these which you have put up has depended, first, on your supply; second, on your tastes or preferences for the various kinds; but controlling both has been the probability of demand. You have some idea what will be the size of the family for which you will be called upon to provide, how many visitors you will have, and what you can afford to put upon the table. If you are a

YOUNG HOUSEKEEPER,

and not accustomed to make such estimates, you may help your judgment somewhat in this way: You will have this year an abundance of apples that will last until when?—the first of June; plenty of Northern Spy, but no Russet; not so great a variety of apples as usual of those kinds that will keep after January; a fair supply of sweet apples; grapes and pears that will keep until the holidays; squashes and pumpkins abundant.

Very well; then we will say no canned fruit is to be used until the first of December; not more than one can per week during that month, and as many more for the holidays, which makes eight in all. We have allowed none for Thanksgiving, taking it for granted you will be at home on that occasion. If your holidays should also be spent at home, you can find some poor family whom you can make glad with the fruit you do not need to use. During January allow three cans per week, and, as in February and March, you will draw largely on your dried fruit, perhaps the same allowance in cans will be satisfactory; in April and May and until the middle of June, four cans per week. Thus we have 40 cans + 36 + 8 = 84 in all.

Then there will be a period after strawberries during which you will need more canned fruit, as we raise no cherries here, and the currant worm has swept off our currants; you will probably need the remaining sixteen to round up the hundred with the year. I have made no allowance for visitors, taking it for granted that you will be absent from home enough to balance that. If not, you can make your own estimate, according to the circumstances. Now you can make up your hundred from the supply yet on hand—peaches, crab-apples, tomatoes, pears, and grapes, especially grapes. You will find canned grapes not only an agreeable fruit for common use, but very acceptable to sick neighbors. You remind me that I have made

NO ALLOWANCE FOR SICKNESS.

Why should I? Would you have me deliberately plan for such a sad wasting of life-forces as will oblige you to give up all work and care and thought and lie prostrate and helpless for a greater or less length of time, in order to recover your exhausted vitality? I would far sooner plan for such a conservation of life-forces as would prevent any such result. Prevention is better than cure. But

you insist that sickness will come, and we should be prepared for it.

I am not certain that it will come. I have not so learned life. But if you or your husband belong to a family with vitality so exhausted that you can not escape frequent prostrating illnesses, you should, of course, prepare for them whatever is necessary. But what should that be? Not jellies nor preserves nor sweet pickles, nor any other such nonsense. My observation about sick people is that while they do not usually eat nearly so much of anything as when well (and very properly too), yet what they do eat should be of the very best and most easily digested. Plain canned fruit of any kind is much better for them than that which is saturated with sugar. Few things relish so charmingly as canned Isabella or Concord grapes, raspberries, whortleberries, or strawberries, and the juices of any of these canned fruits put into water make a refreshing drink for the feverish and the convalescent.

If, however, you will make extra provision of these things, I consent (supposing I have anything to say about the matter), with the proviso that if you do not need them yourselves for sickness, you will give them to some of your less sensible neighbors.

You reply, perchance, that you can keep them over another year. But I object to making any provision of canned or dried fruits to keep over. It is

"CARRYING STOCK"

that you would have better sold out. It is an investment of fruits and cans which pays you nothing, and is continually deteriorating. It would be much better if you should use your cans twice. You would then reap a double benefit from them, where, in the other case, you reap none.

Besides, it is better for the cans. If tin cans are used, the sooner they are emptied the better, for the acid is continually working on the tin, and still more on the solder, which is partly lead, and for this reason it is best never to purchase tomatoes of a previous season's canning. Glass is so much more convenient and so cheap, that tin is now seldom used in the family; but the covers of glass cans are corroded by the long action of the acid. Sometimes the corrosion fastens the cover to the can and ruins the rubber, if not the can; but this seldom happens, excepting with those cans which stand from year to year. So you not only get no return for the use of the cans when you keep them over summer, but the cans are injured much more than when they are emptied and cleaned.

In the case of dried fruit, the risk is still greater, unless it has been scalded and put away in cans, and then the labor and expense are to be put into the account. So we always take with grains of allowance the evidences of thrift afforded by the keeping of fruit from year to year. It is a sort of fighting against nature that does not pay. It should be our duty to work with nature, intelligently, and not to fight her. We might, indeed, take many good lessons from

NATURE'S CLEANING UP,

if we were at all attuned to her common-sense way of doing things. Look at her management about the dried fruits and grains. When the warm weather comes and new fruits and grains are well advanced, she sends swarms of insects to devour the old supply. For our own good we ought to let it go, because she is abundantly providing a fresher and a better. By the time August has come around, with its abundance of fruits and vegetables and green corn—so abundant, indeed, that we almost forget to watch the meal and the flour-barrels; it seems almost impossible to keep them sweet; and what the insects have been kept out of, spoils and sours by the damp, close, hot weather. You ask in distress what you can do. We say,

WATCH YOUR GRAINS

beforehand. Kindly accept the plans of nature, and lay in your stock with reference to this closing up. In July put what little you have left into closely-covered pails and jars, and sift it or examine it effectually before using it. Clean out your meal-bins and flour-barrels and have them ready for a new supply in September, or, better still, if you can wait till October. Use up the little parcels of hominy and rice and barley and samp and crackers and dried sweet corn, or,

if you can not use them all, give them away beforehand, while they are sweet and good.

Perhaps you complain that this requires a great deal of care and forethought. Well, is forethought more difficult or exhausting than afterthought when matters can not be helped; when you have them all to dispose of just the same, only you do not now know what to do with them; with the reflection that you have lost so much and the store-room and the bins must be cleaned out when they are all alive with repulsive things? If you do not know

HOW TO THINK IN TIME,

begin as early as June, to prevent the loss of these things, to make memoranda in a little book, with a pencil attached, and kept in the store-room, after this fashion:

Under the head of "nearly out," write:

Rice—order 3 pounds.
Zante Currants—1½ pounds.
Hominy—5 pounds.

Under the head of "surplus," put an estimate of what may be given away, thus:

10 pounds rye meal.
7 " oatmeal.
Package of sweet corn,

leaving a good margin on some things to serve in case of emergency. Of course, these figures are only for small families, but the same plan is quite as suitable for large families, the time for commencing these memoranda depending on the frequency with which supplies are ordered. In any case, it is well to have your stores so arranged that you can tell, at a glance, about how much you have on hand, and rather than burden your memory with it, if it is a burden, use the memorandum-book freely. There is no economy in taxing your brain to carry what paper can carry just as well.

I am well aware that there is a certain large class of housekeepers who will think *this* method altogether too much trouble. To be always looking after things they think costs more than it comes to. They "get what they think is necessary," and then if it spoils they can throw it away.

But the point is, that it *is sure to spoil*, sooner or later, and we should recognize that fact with all kinds of supplies. We do not purchase a bushel of tomatoes when we know that we shall not be able to use up one-half of them before they spoil; and it is quite as absurd and rather more costly to purchase flour, grains, and dried fruits in the same style. Sometimes this waste is due to a disposition inclined to hoarding. Many, many times I have seen delicious fruits put away until they were half decayed and their delicacy entirely gone. The vitalizing properties of many kinds of fresh fruits rapidly disappear, and the best way to hoard them is to eat them when at their best, and tax your judgment to enable you to do so. There are many, too, who will say that they have too much to do, they can not always be thinking about such matters, but this plan is the

TRUE TIME-SAVER.

When you have looked out for these things in this methodical and reliable manner, you are at rest about them, and ready, with a free mind, for something else. You save yourself the weariness and the vexation of loss, which are a much greater tax than the requisite forethought. Besides, it helps you to acquire a sort of strength which naturally flows from being master of the situation and which, on the other hand, is very seriously broken down by the reflection that you ought to perform such and such duties which you are perpetually leaving undone. The same principle applies to many other departments of housekeeping, such as cleaning your bed-rooms and cellars at the proper time, and also to your wardrobe in putting away your furs, and putting in the famous "stitch in time." This sort of promptness and looking ahead is the foundation of thrift. It is true that this famous quality is very often consorted with anxious care, and it brings up the vision of worn-out mothers sinking into premature graves, or of bustling, busy women who are always turning things upside down with their rummaging and house-cleaning, or following the men about with mop and pail, to clean up any chance-mark their boots may leave on the immaculate floor; but neither of these women are our models. In fact, we are disclosing to you the great secret of the effective

NOISELESS HOUSEKEEPING,

about which we see so many mysterious hints nowadays, where everything is done by magic, no one knows how or when, and yet well done. No doubt a good deal that is written under this head is nonsense. The fact is that with all the "modern improvements," a great deal of our housework still requires time and hard labor; but it does make a world of difference how you take it, whether you let it drive you, or you do the driving yourself. All your work should be more or less definitely planned beforehand, for a week or a month. And if you bring in some one of these active duties for every morning, you will soon dispose of them. Say if you have washing for Monday and ironing for Tuesday of every week, and thus have only Wednesday and Thursday for extra jobs, let the examination of the dried fruits be on Wednesday, and the putting away your furs on Thursday of one week, your examination of the meal-room and of the cellar for the next week, and have it all in your memorandum-book and understood beforehand so that there shall be no delay in getting about it in good season. I know some housekeepers would have all these extra jobs going on some one day, but that sort of thing does not belong to the noiseless, delightful housekeeping. Such a woman makes grand discomforts for others, and probably makes herself sick besides. But if you take some of the hard work for every day, and some of the rest also, then you keep regular habits, you get your hard work done with comparative ease, and you have time for other pursuits. This is no unimportant part of the economy of forces in a busy woman's life. Very likely, however, you have more than your match with

THE COOKING.

There are many other women in the same predicament. They get themselves all heated up and overdone every day with the preparation of the dinner, and they can not, for the life of them, understand the wonderful stories of ladies preparing elegant dinners and then presenting themselves, all cool and smiling, at the table to serve them. To tell the truth, an ordinary big dinner, with soups and meats and vegetables and entreés and pies and puddings is a big undertaking, and it can not be prepared easily without help. The economy of forces here must come in with a reduction in the number of the dishes by substituting a delicate simplicity of preparation for the complicated sauces, soups, and gravies; by having those dishes which are served harmonize so perfectly that all shall seem necessary, and, therefore, none of them be sent away untouched, and especially in serving fresh fruits and nuts at the dessert, instead of puddings, pies, tea, and cakes.

The very profusion of our markets seems to confuse our housekeepers, and they think the table niggardly unless all the vegetables in the market are put on at once. Variety is very agreeable, but it is far more highly appreciated if we can have it at different meals. If a vegetable is well prepared and we relish it, we would prefer to be helped to it a second time, but usually there is so little of it remaining we must take another dish. And it costs you twice the trouble to prepare the two that it would to furnish a sufficiency of the first, and you have prepared neither of them so well as you would either alone. Another point is, if you have one dish that requires much labor in the preparation, let the others be especially simple. Keep this in view in planning your dinners. Here, too, you will find it a great help to know what you have in store and its condition. If you plan for a tomato pilau and find your rice out or wormy, your plan for a harmonious dinner is spoiled; you must get up something else in a hurry, and the annoyance coming just when you are hard at work in the heat, is far more of a tax than it would have been to make a study of the situation beforehand.

Perhaps you will smile at my persistence in that matter, but, really, if you were to tell the truth, I suspect you would say that you find it one of the most difficult of all things to be always thinking about these matters. But there is the point, or rather, there are two points. In the first place, I do not wish you to be always thinking about them. I wish you to think once, or maybe twice, effectively, and then putting them out

of your thoughts, be ready to think about something else. The real difficulty lies in your lack of

ECONOMY OF THOUGHT.

Your ability to think and plan is your greatest gift in the line of effective work; it is your reason, the thing that distinguishes you from the brutes. You would think it one of the greatest calamities to lose your reasoning powers, and yet you deliberately sacrifice their use during a great share of your waking hours. Your work is, in no small degree, of such a nature that you might be pursuing it and still permit your thoughts to be pursuing a profitable train of reasoning, of study, or planning. But do you ever look after them to see what they are doing? Very likely, you can not even tell what you were thinking about while you were preparing breakfast this morning. You were certainly not planning your work for the day, for after breakfast you loitered about for an hour, gossipping with your neighbor a part of the time, and your morning's work, which might have been done by nine o'clock, was not done yet at ten, and then you found out that you had let the fire go down without canning the remainder of that half-bushel of tomatoes that will spoil before you can use them up. Now, I can tell you where your thoughts were. They were running over the incidents of that story you read last evening. "Literary," you say? Not a bit of it. To what *purpose* were you thinking about that story? None at all. Your thoughts were quite wandering and aimless, and during the remainder of the morning you were with equal aimlessness giving up your thoughts to your neighbor's gossip about the accident down at the village. Studying about how you could help the sufferers? No, only just saying to yourself, "It is a pity for A and it serves B just right, and I wonder how C will take it." Now that you have sat down to your sewing, you are doing no better.

And you are the one that has no *time* to think about so many things! You are throwing away the most precious thing in your possession. "As a man thinketh, so is he," and it is no less true of a woman. Have you no problems to study out? Is there nothing you wish to know? No matter if you have not had much "book learning," it is not the amount that is poured into your head that will make you wise, it is the right use of what you do know. If you continue to let your thoughts run away with you, you will never rise above your present level.

How can you help it? Begin when you are alone and quiet, with your work plain and well planned out, and set yourself to study on some topic to think about, and master it. It may be something you have been reading about, and it may help you to have the book before you to refer to or to memorize. You will have much difficulty at first in thus controlling your thoughts, but if you stick to it you will succeed and it will be one of the greatest acquisitions of your life. You will be mistress of "the situation" in hundreds of cases by virtue of your ability to think, when, without it, you will be the slave. If you forget, and your thoughts run away from you, bring them back as you would for any other purpose, even "tie a string around your finger." This systematic method of doing things which I have been recommending will be a very great help to you. Further,

ECONOMIZE WISELY.

Do not build a fire that will cost five cents in order to can tomatoes that are worth only six, for your time is worth something. Do not spend half an hour looking over the vines for half a pint of peas. Do not turn over a scrap of linen twenty times in order to save in cutting what is not worth two cents. The difference between the rich and the poor in this country lies much more in saving and planning than in earning, but it is not of the kind that "skins a flint to save a sixpence." That cultivates narrowness of soul instead of the economy that saves for the sake of giving more freely. Do not economize time from reading to put it into tucks and ruffles. Do not strain your eyes to economize lamplight. Learn to choose the things that economize force, and then lay out your force so that it will generate more force. This is the true economy of forces.

JULIA COLMAN.

CHILDREN'S LEGS--HOW THEY SHOULD BE DRESSED.

IT was with deep regret that we read in that excellent paper, *The Rural New Yorker*, of the 18th of August last, an article on the subject of the dressing of children's legs, and what is worse, that a physician should have written the article, which is as follows:

"The question of short socks instead of stockings for children is," says a physician, "I am glad to see, being noticed; and I trust the result will be that the custom of confining children's limbs in hot, and especially in dark-colored stockings, will, at least in summer, give way before the pretty fashion—now almost universal in France, Italy, Belgium, and Holland—of keeping boys and girls, especially the latter, in socks. As a medical man I am convinced that, provided a child is healthy, and otherwise warmly and suitably clad, it is all the better at any time of the year for having its limbs exposed. In summer there is no doubt about it. There is no finer health-giving agent than fresh, warm air and bright sunshine. Children can not have too much of either. Their limbs ought to be bathed in both. Those who see our little people wading on the sea-shore, delighting to paddle for hours in the waves, their scanty clothing tucked up charmingly, know that children are never so happy as when their arms and legs are bare and free."

The Doctor tells us that in France, Italy, Belgium, and Holland it is the almost universal method of dressing the limbs of children (we suppose he means legs, although the arms, a physician ought to know, are just as properly called limbs as the legs are) in very light stockings or socks, thereby leaving the limbs bare. Now, in a climate like the United States and Canada, where we have six feet of snow and the thermometer at from zero to thirty degrees below, it is a cruelty to adopt fashions, originating in sunny France, in this cold climate. Our idea is that the limbs should be dressed more warmly in cool weather than other parts of the system; but the Doctor wants the children otherwise warmly clad, and let the legs go naked at any time of the year. We have seen hundreds of children with fur caps, fur tippets, muffs, heavy cloaks trimmed with fur, with any quantity of flannel around the body, but the legs covered with thin cotton stockings and a slipper on the foot, rendering it almost impossible for the blood to go to the feet and back again. Is it any wonder that children have congestion of the brain, trouble with the lungs; that they die of brain fever, that they are precocious, all head and no body? If the article in question had been inserted as coming from a layman, we could have borne the infliction; but coming from a physician, and uttering it as his deliberate opinion, it is thoroughly shameful. Probably that doctor drinks whiskey, smokes ten cigars a day, with numerous hygienic abuses. Fashion-mongers and uninformed mothers, who doubly dress the bodies of their children and do not half dress the legs and feet, may circulate the article and read it with avidity. We expect to see it copied widely. We sometimes think that error flies a thousand times faster than truth, and that the human race seems to take delight in spreading falsehood. But we snub the doctor, whoever he may be, and trust that no sensible people will ever employ him as a medical adviser.

In summer-time, we would dress children lightly and loosely; but whenever it becomes cool, the legs should have warmer covering than the body, and the back should be dressed more warmly than the front. People take cold a thousand times by having thin, light covering on the back, while the clothing in front is heavily wadded, and of many thicknesses. Men wear woolen vests with a thin, muslin back; they wear plaited, double shirt fronts, with one thickness on the back; the dress-coat is wadded and buckrammed in front and lapped and buttoned, but the back is the single thickness of the cloth; the over-coat is heavily made in front, and sometimes that may be wadded across the back, but it is safe to say that people are dressed four times more warmly in front than they are in the back. Those who have any trouble with their lungs should remember that they take cold through the spinal region more readily than through the front of the chest.

RECORD OF SCIENTIFIC DISCOVERY.

The Range of the Microscope.—Although Helmholtz and other mathematicians of the first order who have applied their methods of analysis to the subject, have alleged that the limit of visibility with the microscope has been reached, later investigations disprove them. The limit of visibility has been named as the 180,000th of an inch because of the assumed insufficiency of the light to define smaller objects. But this view is not wholly accepted by microscopists. The Rev. Wm. H. Dallinger has made experiments which point to a very different conclusion. He employs a new method of practical observation specially adapted to testing this question, and has constructed lenses which carry the limits of distinct visibility far beyond the boundary above designated. Much smaller objects are thus revealed than the theory referred to would indicate as capable of being seen. Furthermore, Mr. Dallinger does not believe that the limit of division and visibility by instrumental means has been reached yet.

The Divisibility of Gold.—Mr. A. E. Outerbridge, Jr., of the Philadelphia Assay Office, has recently given a notable example of the divisibility of gold by exhibiting before the Franklin Institute some thin films of gold obtained by electric deposition upon copper, and afterward detached. These pieces of gold-leaf were translucent, and gave a green color to transmitted light. Mr. Outerbridge has thus produced films of gold so thin than one grain of the metal would cover nearly four square feet. This is 10,000 times thinner than ordinary writing-paper; and 2,798,000 of such films together would only make one inch.

Growth of Coral.—A Melbourne journal describes a remarkable piece of coral taken from the submarine cable near Port Darwin. It is of the ordinary species, about five inches in height, six inches in diameter at the top and about two inches at the base. It is perfectly formed, and the base bears the distinct impress of the cable and a few fibers of the coil rope used as a sheath for the telegraphic wire still adhering to it. As the cable has been laid only four years, it is evident that this specimen must have grown to its present height in that time, which seems to prove that the growth of coral is much more rapid than has been supposed.

An old Roman Calendar.—In digging near Ceri, Rome, there has been discovered a superb marble fragment of an ancient Roman calendar, containing the second half of the first five months of the year. Besides the usual indications of days, feasts, and the different games, there is a list of the principal solemnities; some of these last are quite new; others confirm conjectures which have been made by learned men on less certain indications. The most recent date which can be read is that of the dedication of the Altar of Peace by Augustus, in the 745th year of Rome.

Prof. Tyndall on Spontaneous Generation.—Prof. Tyndall, at the close of a recent address, said: "From the beginning to the end of the inquiry there is not, as you have seen, a shadow of evidence in favor of the doctrine of spontaneous generation. There is, on the contrary, overwhelming evidence against it; but do not carry away with you the notion, sometimes erroneously ascribed to me, that I deem spontaneous generation impossible, or that I wish to limit the power of matter in relation to life. Possibility is one thing and proof is another; and when in our day I seek for experimental evidence of the transformation of the non-living into the living, I am led inexorably to the conclusion that no such evidence exists, and that in the lowest as in the highest of organized creatures the method of nature is that life shall be the issue of antecedent life."—*Labor News.*

New Telescopes.—Messrs. Clark & Son, of Cambridge, Mass., are making a telescope fifteen feet long with an object glass of eleven inches in diameter, for the Government Observatory at Lisbon, Portugal, to cost $6,000, and be used for photographing the sun. Princeton College is to have a $4,000 one made with a nine-inch glass for astronomical excursions, and talks of getting a much larger one. The Clarks are also to make a gigantic one for Yale College, but it will take several years' work and cost $50,000, the flint for the object glass, which has already been bought in France, costing $6,000.

Conjunction of Mars and Saturn.—At a late meeting of the London Astronomical Society, Professor Marth exhibited some diagrams of the triple conjunction of Mars and Saturn, between July and November of this year. The dates of the three conjunctions are: July 27, 5.15 P.M.; August 26, 4.19 A.M., and November 4, 12.8 A.M., all New York time. The last of these occurrences will be the most interesting, from the remarkably close approach of the two planets, the distance between them being only eleven minutes of arc, or about one-third the diameter of the moon. Saturn, the greater Infortune, and Mars the lesser Infortune, of the old astrological systems, may now be found in the south-east.

About Metals.—Of the fifty known metals, vanadium is reckoned the most costly, and iron the cheapest, though really the most valuable of all. As estimated by commercial prices current, a pound of vanadium costs more than two hundred tons of pig iron. There are nineteen metals more costly than gold, though many of them are rare and prac-

tically valueless as far as applied to any practical use in their metallic state.

None of the metals are poisonous by themselves, probably because they are insoluble in their metallic condition. When metallic compounds are decomposed by electrolysis the metals are always attracted to the negative poles, and hence they are called electro-positive.

The Great Coal Fields of Ohio.—A district of one hundred miles square, including the counties of Athens, Perry, and Hocking, is the future coal field of this nation. It is to be the "Black Country" of the United States, as the noted district in Staffordshire is the "Black Country" of Great Britain. In fifty years it will probably equal Staffordshire or any district in the world. This district has twenty-two feet of solid coal in five seams. The great vein (properly "bed") is in places twelve feet thick, and nowhere less than six feet Mingled among the coal beds are inexhaustible beds of iron. The thickest is five feet deep at the outcrop; the thinnest, in places, sinks to six inches. But the thickness of neither seam is quite persistent; there are "waves" from time to time, which narrow the seam. The coal, on the contrary, may be said to run from hill to hill with perfect uniformity. Limestone is also present in any desired quantity.—*Nelsonville* (O.) *Gazette.*

AGRICULTURAL HINTS.

[The mind is the man. Farming, in the highest sense, is not simply doing the hard work necessary. This can be done by muscle when directed by brains. The true farmer is he who can plan, direct, and control skillfully.]

As this department is one which should contain the most recent gleanings of wisdom and experience, our readers and friends in the rural districts are invited to send us any items of value to agriculturists in general, and which should have a wide circulation. Due credit will, in every case, be given to the contributor.

Better Times for the Farmer.—The American farmer certainly needs encouragement, the encouragement of a better market, and a better financial system than the bankers and brokers, assisted by government, have given him. *The Agriculturist* thinks that he will have his chance soon, viz: "The experience of the past few years goes to show, that there will be no danger of 'over-production' in the future. We need not fear to raise as large crops as we can. The foreign market is large and steady, and will need all we can produce in the way of grains, meats, provisions, and dairy produce, to supply it. The low prices of the past few years have brought this about, and therefore have not been by any means an unmitigated evil. While we have been depressed and troubled by a reduced income from our farms, which has sorely embarrassed those who have been in debt, this has been the means of stimulating farmers generally to do better by their farms than they had formerly done. In no previous period has stock been so much improved as during the few years just past, and we have, in consequence, found a market in England for meat, which has saved our home market from demoralization. At no time before the present has there been so much of artificial fertilizing, and never before so anxious inquiry about the possibility of enlarging the crops, and using the most effective economy in farming operations. In the meantime thousands of persons are entering into agriculture and other industries; the wave of western emigration has broken upon a shore where the land, although valuable for pasture, is not arable, and it now flows back again upon the neglected lands of the East, which are being restored again to their former fruitfulness by means of most skillful operation. There is now a closing up of scattered ranks, and the farming interest is becoming consolidated. As population may increase, during the next twenty-five years, to double its present limit, and we have a hundred million mouths to feed in our own country alone, all the resources and skill of the farmer will be taxed to meet the demand for his products. The value of farms can hardly fail to increase year by year, on these accounts, and it will be to the farmer's interest to see that he neglects no means of making his more valuable property pay a higher interest than now. This can only be done by making it more productive."

Material of Farm Buildings.—The excellence of farm buildings does not consist so much in the materials of which they are built as in the use made of those materials. Useful buildings may be made of logs or prairie sods, or poles and coarse hay; and these, by skillful arrangement, may be made to serve as useful a purpose as dressed lumber and paint, or pressed brick. The main points are warmth, dryness, and ventilation; for food is wasted when an animal shivers in its stable, or when its health is injured by damp, filth, or bad air. A farmer who is thoughtful about such small things as this (although this is more important than it appears) may be taken to be a careful, thrifty man, who, by and by, will be able to build a barn with all the improvements, and to build it properly too. The old proverb, "Take care of the small things and the large ones will take care of themselves," is applicable to matters about farms and barn-yards especially. When the small things are well watched large ones are not forgotten.

Care of Harness.—The practice of washing harness with warm water and soap is very damaging unless a coat of oil is applied immediately after. No harness is ever so soiled that a damp sponge will not remove the dirt; yet, even when the sponge is applied, it is important to apply a slight coat of oil by the use of a second sponge. All varnishes, and all blacking that contains the properties of varnish, should be avoided. When a harness loses its luster and turns brown it should be given a new coat of grain black; first wash the grain surface thoroughly with potash water to kill the grease, and after the application of the grain black, apply oil and tallow to the surface. This will fasten the color and make the leather flexible. Neatsfoot oil only should be used on harness, and no more should be applied to the leather than it will readily absorb. A superabundance works out to the surface in hot weather, catching dirt, and in a short time looking very mean.—*American Stock Journal.*

New Farms.—It is said that nineteen thousand five hundred new farms were started in the new States and Territories last year. This simply means that just the amount of labor and capital required to do this was drawn from other localities nearer markets, and where both could have been employed doubtless to better advantage. All the old States have a great deal of unoccupied or unimproved land, which may be obtained cheaply. It has been a matter of wonder to us that enterprising men would leave the facilities and opportunities of settled districts for the rudeness and emptiness of far-off regions.

Potatoes.—The best fertilizer for potatoes, so says a good practical farmer, is prepared after the following formula: Mix thoroughly one bushel of salt, two bushels plaster of Paris, four bushels air-slaked lime, and eight bushels of good wood ashes; add to this as much, in bulk, of clear sand or loam, and put a large handful in each hill. This quantity is sufficient for an acre. It is cheap, and easy to procure a supply; and the quality of the potatoes and abundant yield will satisfy any one who tries it. Besides, the articles are all good, and much needed by most of our soil.—*Vermont Farmer.*

Horses' Sore Breasts.—An exchange remarking on the chafing of the breast of horses, says: "The common practice of using pads of sheepskin under the collar is objectionable, especially in warm weather, because they accumulate heat and make the breast tender. A better way is to take a piece of thick and smooth leather, cut it out just the size of the collar, or a little wider, and let it lie flat on the neck and shoulders of the horse. This will be still and smooth on the horse's neck, while the collar itself moves about, and so it will prevent chafing. In addition to this let the breasts of working horses be washed off every night with clean water."

Greasing Axles.—On the authority of the *Carriage Monthly*, more injury is done to carriages and wagons by greasing too much than the reverse. Tallow is the best lubricant for wood axles, and castor oil for iron. Lard and common grease are apt to penetrate the hub, and work their way out around the tenons of the spokes and spoil the wheel. For common wood axles, just enough grease should be applied to the spindle to give it a light coating. To oil an iron axle, first wipe clean with a cloth wet with turpentine, and then apply a few drops of castor oil near the shoulder and end. One teaspoonful is enough for the four wheels. Carriages are sometimes oiled so much that their appearance is spoiled by having the grease spattered upon their varnished surfaces. When they are washed in that condition, the grease is sure to be transferred to the chamois from the wheel, and from thence to the panels.

The American Builder, in reply to an inquiry, says: "If your closets are damp and engender a mold which incases not only boots and shoes, but also other articles of wearing apparel, obtain half a peck of unslaked lime, and put it in a shallow dish in the closet, and it will absorb the dampness. When it becomes dry it should be renewed. A damp house, however, is a potent agent in producing diphtheria, neuralgia, and bronchial troubles, and no time should be lost in making the cellar damp-proof with cement, and the drainage from gutters and roofs should be attended to forthwith. Cases of this kind are frequent causes of disease and death in families where there is no good reason for such existing.

Watering Places for Stock along Shallow Streams.—A correspondent of the Ohio *Farmer*, Mr. L. D. Snook, suggests the following: At the point where the fence crosses the stream excavate a place in the bed of the stream sufficient to hold two or three barrels of water; when finished, drive in the ground a few feet apart and two feet from the fence, two posts or stakes, and leave them projecting eighteen inches. Upon the outside of these firmly nail three wide boards or two narrow ones. A watering place is also easily made for the accommodation of stock on the opposite side of the fence; or should the most desirable point for watering be away from the fence, then four stakes are driven in the ground at the point desired, and boards nailed on its side, forming a box with open top and bottom.

This plan prevents hogs from wallowing in the stream at the watering point, and horses that are in the habit of pawing in the mud and water can not muddy the drinking water for other stock.

Figs in the South.—A correspondent, Mr. O. Taylor, of Mt. Pleasant, Ala., writes: "Figs in Florida do not grow as figs in Smyrna, according to a writer in the PHRENOLOGICAL. They fruit to perfection here without the aid of man to fertilize them, and I do not believe

that the fig ever has the male and female on different trees. The blossoms are inside the figs, and all I ever saw are perfect. I have ten varieties at present on my place. The seed of foreign figs grows easily here, but no such figs as your writer from Smyrna speaks of ever grew from such seed, according to my knowledge; and as to an overdose causing the crop to fail, that is almost too big a dose for a pomologist."



MRS. C. FOWLER WELLS, *Proprietor.*
H. S. DRAYTON, A.M., *Editor.* N. SIZER, *Associate.*

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TO MEET THE PUBLIC NEED.

THE aim which the publishers of the PHRENOLOGICAL JOURNAL have kept constantly in view, is to meet the popular want of instruction concerning the human mind and body. In the prosecution of this aim we have sought to adapt the form and character of our magazine to the taste and capacity of the masses, those who need most the instruction which relates to the care of the health and mental improvement. It is clear that popularity and cheapness are coördinate in literature; that high-priced books and periodicals do not find their way easily into the homes of those who are dependent upon the results of their daily labor for daily food.

To the mechanic and to the small farmer, with families surrounding them whose miscellaneous wants appear numberless, three or four dollars seems a large sum to be given for a magazine; and however much the reading matter thus procured in monthly installments may be prized, when the time approaches for the payment of the annual subscription, the amount required assumes proportions so great as to keep almost out of view the sense of benefit. In times especially when work is scarce and wages low, as at present, many an honest heart is pained by the conviction that the necessities of the household require the money which would otherwise be gladly sent for the old favorite, and the thought comes: "If it were a dollar less, I would have it again and try to make ends meet."

Several of our old subscribers have expressed views in keeping with this, and the contemplated reduction in price, which the reader will find more particularly noted in the publishers' department, is as much for the purpose of responding to such appeals as for promoting the dissemination of scientific truth.

When the price was advanced to three dollars, seven or eight years ago, all departments of industry were active, labor commanded very high rates of wages, and the masses had more money in their possession than ever before in the history of our Republic. In fine, three dollars then was much more easily obtained by the workingman, and by the merchant, than to-day. With such increase in price there was no falling off in readers; on the contrary, our books show an increase until the excessive prosperity of the country began to indicate a change, or rather to declare its want of a solid substratum. In reply to several inquiries, we will state that the scientific departments of the PHRENOLOGICAL will be maintained at the present standard, if not improved, and whatever change may be

made in accordance with the reduction in price, will affect mainly the miscellaneous reading. In biography we shall continue to be as full as at present, and contemplate no abatement of illustrated matter.

In times of depression, when vast numbers lack employment, and the general tone of the community shows a moral slackness, a natural resultant of industrial inactivity, it is most important that the literature of the people should be healthful in tone and supply wise counsel. If the people are then cheered and instructed, the day of better things will be hastened, and the community will be enabled to render its prosperity sure and enduring.

It is with an earnest desire to promote the movement toward an improved order of social and industrial affairs that the publishers have decided to reduce the price of the PHRENOLOGICAL, and to adapt it to the pecuniary status of the average citizen.

IS PHRENOLOGY WANING?

A CORRESPONDENT says: "I am often asked the question, How is it that there is not the same interest in Phrenology that there was some years ago?"

Answer: In the first place, it is not true, though to the casual observer it may seem so. When Phrenology was introduced it awakened the spirit of curiosity and astonishment, and also the spirit of opposition and ridicule. It was the last new thing. Everybody must have his say about it.

Some five-and-twenty years ago the subject of Spiritualism was projected upon the public attention, and it was talked about; it was railed at; people would run here and there to see about it; men took sides for and against it. To-day there is not a great deal of that noise, but the subject itself probably has more adherents than it had ten years ago.

We remember when the religious denominations called Baptists and Methodists were trying to gain a foothold in Western New England. There was but one denomination, the Congregationalist; and they looked upon all these new-comers as interlopers, and there was a general current of opposition to them, and any man or woman who would undertake to worship with either of those denominations was argued with or ridiculed, and mourned over or opposed. They could not get a public building to preach in, but had to worship in farmers' kitchens, barns, and forests. In those same old towns to-day the spire of the Baptist church has as tall a vane and as sonorous a bell as any of the others; the Methodist church stands erect amidst the elms and maples, and does not blush in the presence of the Congregational church; the respectable and wealthy people are about equally divided among the three denominations; and nobody to-day seems to think that to be a Baptist or a Methodist is to be an outsider. Consequently there is no noise made about it. Are Methodism and Baptism dying out in New England because there is no quarreling any longer about them?—no fuss, no noise, no confusion?

If a fountain should burst out in a hilly country it would go roaring, dashing, surging toward the valley. It would be turbid; it would be filled with brush and trash and floating débris of every sort. The stream would seem to quarrel with every hillock, bush, and tree. Go there ten years afterward and follow the stream through the valley toward the sea, and it would be found that the stream which once made such a disturbance had found a channel; had worn for itself a pathway; the water is clear; it runs deep and smooth; fish have found

their way up into it and rejoice in its cool deep places. The man who saw the fountain burst on the hilltop and listened to the rush, the roar and strife, would look in vain for his noisy brook and wonder if it was all dried up.

There are ten believers in Phrenology today where there was one thirty-five years ago. There is not such a strife to discuss the question. Men have it as a settled belief. They have seen its fruits and know them to be good. They are training their children by its light. Those who are now the teachers and firm friends of Phrenology, whose libraries are filled with its literature, and whose heads are rich with its ideas of self-improvement and internal mental growth, do not remember how their grandfathers quarreled over Phrenology and opposed it and laughed about it. There is a large representation in this generation of men who never had any skepticism on the subject of Phrenology. They accept its truths as they do the multiplication table, and have an idea that there are about as few mistakes made in the application of Phrenology as there are in the use of the multiplication table. Not a few people make some mistakes in figuring, and of course phrenologists are equally liable to make mistakes, though their principles and philosophy are sound.

CO-OPERATION--FINANCIAL AND INDUSTRIAL.

THAT was excellent advice which Senator Conkling gave in his short speech on the occasion of his return to Utica, from a European tour. He sketched the condition of the working classes of England and France, and indicated the great superiority of American work-people in point of rights, privileges, and wages, and deprecated the "madness" which had precipitated the outrages in connection with the recent railway strike. The Senator remarked, in this connection:

"We are all workingmen in America. No class has a monopoly of the right to call itself the working class here. I have always worked, and always been compelled to work, and my sympathies are all with honest labor. I believe in its dignity and in all its rights. But, when the tidings of the strike reached me in Paris, under my eyes was a spectacle which seemed to heighten the madness of what men in America were doing. The Government of France was borrowing money, and on the curbstone in the street, sat men all night to get each his turn in the morning to invest in the loan. They were workmen who, living as workmen do not and need not live here, and working for wages which American workmen would scorn, had, by hook or by crook, saved fifty francs each. Fifty francs make ten American dollars, and these all-night watchmen were there to buy a ten-dollar bond, on which they were to get four per cent. interest. There sat the workingman of France amid the luxury of the more fortunate, contented with what fate had sent him. Can it be that liberty and prosperity have spoiled any portion of the American people until they can not endure their share in a season of common adversity?"

This short extract contains many lessons for our study. The contrast which French industry presents with American is amazing. France, although impoverished by war and trade stagnation and the constant prey of political convulsion, yet finds in her population an unceasing devotion and an untiring energy. She wants money and invites the masses to contribute toward filling her treasury, and they respond with enthusiasm. Let our financial authorities take a hint or two with regard to interesting the public at large in the fiscal matters of the nation, and not entrust important loans entirely to wealthy syndicates whose policy seems to

be that of extending only to the rich and well-to-do the privilege of participation in them, while the men and women whose strong hands and ready hearts minister to all that is fundamental in the substantial prosperity of the country are excluded. Their few dollars each are beneath notice. Ten-dollar bonds would be too "small potatoes" for our high officials to handle!

Another very important lesson is that of the frugality of the foreign workman which enables him to meet and bear successfully the commercial crises which have so frequently marked the history of France in the past decade. The American workman has exhibited an unwilling spirit in adapting himself to the social and commercial changes which have been going on since the close of the late civil war. To be sure, all classes have sought to maintain the current of affairs at the high-tide which characterized the period of stimulation and inflation, notwithstanding the fact of its insubstantial and impracticable nature stared them in the face. The flavor or prestige of prosperity, however fictitious it might be, was too agreeable to be relinquished without a struggle. Even wise men turned their eyes from the condition which they knew was near and inevitable, and only when it had entered their counting-rooms and invaded their homes did they settle down grimly to a reckoning.

The many strikes, which have characterized all departments of labor since the commencement of reaction, have shown the hostility of the working people to contraction in the measure of wages in spite of the obvious lack of demand for the products of labor. The flush of industrial activity during the civil war and immediately succeeding it, awakened the American mechanic to a sense of the importance of his relation to the prosperity of society such as he had never before experienced, and the extraordinary wages paid for his services enabled him to command educational and social advantages such as he had never before known. It is not at all strange, then, that the intelligent and skilled artisan should be reluctant to return to old conditions, or that the ignorant workman should obstinately refuse his co-operation in the measures of re-adjustment.

But they forget, and it must be said that all classes appear to forget, that human happiness does not depend upon wealth as measured by dollars, but upon altruistic sympathy and frank co-operation. Whatever might be the times, "hard" or "good," if men and women, high and low, rich and poor, should regard each other with kindness, and candidly co-operate in the work of the factory, the store, the farm, each performing with honest readiness the part falling to him or her, there would be no occasion or room for strikes; a moral tone of such high character would grow out of this happy relation that the discontent and covetousness which engender industrial strifes would find no toleration in the community.

PHYSIOGNOMY TO ORDER.

NOTWITHSTANDING the testimony bequeathed to us by Homer, Theophrastus, Ecclesiastes, Plato, Aristotle, Aquinas, Lavater, Shakespeare, and a hundred others, to the effect that "a man is known by his countenance," it has become one of the provinces of modern art and science to manufacture or mold a feature somewhat in accordance with one's esthetic longing. Are there not skillful surgeons who hold themselves in readiness to furnish a lip or nose to them who lack a complete suit of facial elements? Do not these professors of osteoplasty cover up disfigure-

ments occasioned by wounds or disease with a deft manipulation which is scarcely short of the marvelous? Surely the golden age of physical symmetry and beauty is dawning.

But it is not essential that one having a nose set a little awry or inclined to deviate from a right line, and point either heavenward or earthward, should apply to the skilled osteoplaticist, whose charge gravitates upward in a manner rarely proportioned to the size of his patient's wallet; he can operate upon himself. A certain Monsieur Ross, of High Holburn, London, offers for his consideration, and for a consideration doubtless regarded as more substantial, a machine which Monsieur Ross avers, when "applied to the nose for an hour daily, so directs the soft cartilage of which the member consists, that an ill-formed nose is quickly shaped to perfection."

Ho, all ye crooked-nosed, behold your benefactor! Embrace this opportunity and be no longer subject to criticism, snubbing, ridicule, or reflection on account of your nose. Ye unfortunate, who carry one of the bottle order, whose varying tints of red are so conspicuous and embarrassing, retire from public notice for awhile and wear the wonderful machine in some sequestered nook and come forth reformed as regards your nose, and astonish your acquaintances by the adoption of an elegant Grecian proboscis in place of the disagreeable, swollen, red thing of the past.

Ye who possess an unseemly hump midway on the line of your nasal feature, put on the machine and try its virtue as a leveller, and be happy, as you find the hump taken down, in the reflection that while your friend of the "bottle" is indebted to the same kind apparatus for gaining a better reputation among his friends, your character for dominant mulishness has undergone a material reduction, and society regards you with a more lenient eye than before.

BRIGHAM YOUNG.

THE death of Brigham Young, on the 29th of August last, in his seventy-seventh year, will probably hasten the crisis toward which Mormon affairs have been working for some years. The Mormon system has owed its perpetuity and strength in the main to this man's extraordinary ability as a governor in matters civil and religious. In fact, from the time of his accession to the Presidency of the Mormon community, in 1847, to his death, he held the fortunes of his fellow religionaries in his hand, and in spite of the encroachments of other colonists and other religious societies, and notwithstanding the unfavorable attitude of the United States Government, he maintained the social and religious individuality of the Mormon community substantially unimpaired. He was a natural leader and organizer—a nation builder. Had he established his people in a country where they could have acquired the position of a separate, independent State, he would probably have founded a vigorous little nation. In his personal habits he was frugal and simple. He excelled as a judge of human nature and in the power of control. An unlearned man, yet he was able to build up a great, enterprising, and prosperous community, and to keep it always subordinate to his will. Take him all and all, Brigham Young was the most remarkable man of the century.

THE NEZ PERCÉS STRUGGLE.

THE everlasting Indian question is pressed painfully upon our consideration with the news of every encounter between the Government forces and the wild moun-

taineers; and the recent battle in which Colonel Gibbon was the commander, and in which twenty-five of his force were killed, and forty-five wounded, without any advantageous result, most earnestly bids us pause and think of the situation. For what purpose is all this waste of life? Far off in those mountains, brave men are led to be slaughtered by Indians, whose cunning and desperation render them most formidable foes. Is not this policy of chastising the savages a most costly one?

Mr. J. W. Nesmith, at one time Superintendent of Indian Affairs, says of these people:

"They are the finest specimens of the aboriginal race upon this continent, and have been friendly to the whites from the time Lewis and Clark visited them up to the inauguration of the present outbreak. From a kind, docile, friendly people, the mismanagement, frauds, and downright robbery perpetrated by the general Government and some of its rascally representatives, have driven them to take up arms, and converted them into a fierce, dangerous, and relentless enemy."

The thirst for gold, which has ever been a dominant cause of strife and bloodshed in nations and families, has brought about the present conflict, and from all appearances ere it is ended there will be many houses of mourning in the land.

We have been told by eminent Western missionaries, and by men who have lived among the Indians for years, that they have not committed outrages on white settlers until driven to extremity by encroachments upon their rights, and that in the case of the Nez Percés the Government is responsible for arousing their savage instincts by pursuing an unjust and vicious policy in dealing with them.

OCTOBER CLASS, 1877.

ON the sixth day of the current month the Autumn Session of the American Institute of Phrenology will be opened. The prospects for a large class are good, still there will be room for any who may decide, even at this late day, to become members. The reduction of the price of tuition to seventy-five dollars, thus leaving the student twenty-five dollars, which will nearly cover the cost of board for the term, acts as an inducement to attend the Institute this year.

Students who graduate this fall will be able to enter the field, so as to reap the benefits of the best of the lecturing season. Those who contemplate entering at this term, should endeavor to be present on the day of opening. Circulars giving full particulars of the course sent by first mail, on application to S. R. WELLS & Co., 737 Broadway, N. Y.

ALVIN ADAMS. — Among the notable men who have lately died is Mr. Alvin Adams, the founder of "Adams' Express." The enterprise and success of Mr. Adams were most remarkable. In 1840 he was not worth a dollar, but by skillful business management he became immensely rich. When he first began to carry parcels and letters between Boston and New York there was no railroad, and upon the completion of the New York and New Haven Railroad, he formed a partnership, and contracted to pay the railway $1,700 a month for the privilege of carrying small packages by their road. The next step was to carry freight, and then followed the establishment of agencies and the extension of the business over nearly the whole country. His hospitality was generous, and his splendid home at Watertown, Mass., was almost a public resort.

Our Mentorial Bureau.

[In this Department will be noticed such matters as are of interest to correspondents and to the general reader. Contributions for "What They Say" should be brief, pointed, and creamy, to secure publication.]

To Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY *will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.*

IF AN INQUIRY FAIL TO RECEIVE ATTENTION *within two months, the correspondent should repeat it; if not then published, the inquirer may conclude that an answer is withheld, for good reasons, by the editor.*

WE CANNOT UNDERTAKE TO RETURN UNAVAILABLE *contributions unless the necessary postage is provided by the writers. In all cases, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage—stamps being preferred. Anonymous letters will not be considered.*

ULCERATED TOE-NAILS.—The trouble you speak of is painful enough, and occasioned through the common practice of wearing tight shoes or boots. If the trouble is of long standing it is difficult to treat, and will be found somewhat obstinate. We do not altogether favor surgical operations, yet some chiropodists advise the extraction of the nail. We think the better way is to apply cold water compresses, and regulate the diet so as to keep the blood pure and clean. Dr. Meigs, of Philadelphia, advises the nail to be scraped (mainly in the center, so as to induce a tendency of growth upward on both sides), and then introduce under the angle of the sore side soft lint, filling in this way the space between its edge and the flesh. Over this may be placed a water dressing. Until the inflammation has been entirely reduced, and there is progress toward healing, of course a very loose shoe or slipper should be worn.

READER, who asks how an injury of some of the bodily organs can be represented on the skull, is informed that the answer is not adapted to a public journal.

HEADACHE.—A rush of blood to the head gives pain and uneasiness, and if the brain be very active, the head may increase in size, or at least become very sensitive to the pressure of the hat. Avoid coffee, spices, sugar, tobacco, and eat liberally of fruit to keep the liver active, and oatmeal and Graham-flour bread and cracked wheat to keep the bowels free, and sleep abundantly.

WHISPERING confidentially to one who is listening, or lowering the voice when no third person is near or within possible hearing, is the result of large Secretiveness and Cautiousness.

INFLUENCE OF SHAKESPEARE.—This great dramatist occupies his high position in the intellectual world because he has played with a masterly touch upon "the harp of a thousand strings." Scarcely any emotion or passion or feeling common to the human mind can be mentioned which Shakespeare has not in some way represented or impersonated; so the careful study of his works will have an influence in awakening the general activities of the mind. Were we asked what organs particularly were brought into exercise, we would specify the organs generally of the intellect, besides Ideality, Constructiveness, Spirituality, Destructiveness, Friendship.

FATALITY.—A correspondent possessing considerable intelligence propounds several questions which embody the old, old objection of fatality or materialism. Phrenology does not assume any responsibility for what it discovers as a science in the organization of man; no more than chemistry or geology assumes responsibility for the existence of the elements they find in the rocks. These things are so, says our science, but she does not stop there. She goes further, and with the missionary's generous thoughtfulness counsels improvement. On the authority of Holy Writ, as well as of Phrenology, we can say that each man has a certain measure of moral capacity inherent in his organization. "To each one of us is given favor (grace) according to the measure of the gift of Christ (God)." Need we refer to the parable of the talents, which illustrates forcibly the same principle? Man's responsibility is coördinate with his organism. The poor fellow who had but one talent was not punished for having but one talent, but for being delinquent in its use. We meet with men every day who apparently possess in the outset but one talent, but who by an energetic use of it, instead of supinely sitting down in the mire and bemoaning their fate because of having so few intellectual and moral qualities, have become even distinguished; keeping their eye set upon some one object, they have plowed steadily toward it, and finally attained real excellence. Men of the stamp of Mr. Huxley insist that they

owe their proficiency in science to hard work, not to any special gifts of nature. For our own part we do not perceive any remarkable endowment in such men. They are not brilliant, but they are steady, persistent, thorough-going. Phrenologists will not recognize or propagate any doctrine which they do not deem well founded. They will not recognize fatalism, as they believe that their observations do not sustain it. On the contrary, the Phrenological doctrines thoroughly demonstrate human progression. We have been the means of bringing encouragement and joy to many desponding, downcast souls; despondent and downcast because of the gloomy influence of fatalistic reflections. We think that our profession should contribute toward this enlightenment and cheerfulness. You are not sufficiently read in the subject to understand the practical application of phrenological principles. A full appreciation of their comprehensiveness would relieve you of many of the doubts which you now entertain.

GREAT BRAINS.—*Question:* Will you please insert in the JOURNAL the names of a few persons noted for large heads and heavy brains, and the size and weight of the same?

Answer: Among those, the capacity of whose brains have been recorded, are Cuvier, the great French naturalist, sixty-four ounces; Dr. Abercrombie, sixty-three ounces; Webster, sixty-three ounces—estimated.

A VEGETARIAN GROUP HOME.—The communication which was published in the PHRENOLOGICAL JOURNAL a few months ago, with this title, has awakened considerable inquiry. Will the writer of that communication send us again his address?

COMPARISON AND SPIRITUALITY.—Careful observation of physical objects and the estimation of their qualities and characteristics will assist toward rendering active the organ of Comparison. The reading also of literature which is largely made up of statistical argument and illustration will contribute toward such activity. With reference to your spirituality, study religious subjects, the entertaining of religious habits, and the performance of Christian work will help. The reading of literature of a high-toned moral stamp will prove a powerful aid; such poems as Pollok's "Course of Time," Bickersteth's "Yesterday, To-day, and Forever," are admirably fitted for awakening moral sentiment.

SPOTS ON THE NOSE.—The dark spots you allude to are occasioned by deposits of effete matter. Render your diet as pure as possible. Use water freely in the way of bathing, and do not be rash in rubbing and scraping your face, particularly the nose, and you will find that in the course of time nature will improve your appearance. Many people, by squeezing and pinching and rubbing, make matters worse, sometimes establishing a permanent state of disease.

HEADS OF MILITARY MEN.—Soldiers of eminence are largely endowed with Destructiveness, Constructiveness, Combativeness, Caution, force of character in general, and large perceptive faculties. General Grant's chief characteristics are self-poise, persistency, executive ability. General McClellan possesses perhaps too much Cautiousness. Benedict Arnold was a man of fine intellectual capabilities, but had excessive sensitiveness, large Approbativeness, and scarcely enough Conscientiousness.

SOMNAMBULISM.—The phenomena of somnambulism indicate peculiar mental possibilities in man. The fact that the sleep-walker forgets on awakening the circumstances of his somnambulistic adventures points to the possession of double consciousness—a property which has not yet been thoroughly explained. The composite nature of the mind has, of course, a special bearing on it. In dreaming, few faculties are awake and in exercise, hence the inconsistencies which are presented. In somnambulism there may appear a remarkable balance of the faculties which enables the subject to do things which he would not attempt in his normal state.

ECZEMA.—J. T. M.—We think that the substances which you have swallowed for the relief of the eruption have not been beneficial. It would be better for you to adopt a pretty thorough hygienic course of diet. An occasional Turkish bath would be of much help in relieving the system of the morbid matter which now appears as an eruption. Eat plenty of fruit. If there be any tendency to typhus fever in your family, by all means shut down upon flesh diet for a time, until the typhoid taint has been eradicated.

BRAIN WORK.—X. Y. Z.—We can scarcely answer your question. Constitutions vary so much that what would be severe exercise for the faculties of one might be simple and easy to another. People become accustomed in the course of time to what at first appeared very severe and difficult. Men who are accustomed to writing as authors are able, after years of practice, to write almost automatically. The faculties become so thoroughly co-ordinated they work with little friction, and supply the brain-material requisite on the slightest call. Of course there are some sorts of brain labor which are more exacting in their demands upon the strength than others. We think that the short-hand writer, one who attends upon trials at court, or to the business of an enterprising newspaper, performs very exhaustive work. So, too, the editor of a newspaper who is compelled to furnish a certain

amount of matter for publication every day, often experiences weakness and lassitude because of exhausted vitality. Then, too, the lawyer, in the prosecution of an important case which occupies his mind days and weeks without relaxation, sometimes gets broken down. Any routine, in fact, becomes wearisome when protracted beyond what is reasonable. As a rule, that employment which exercises at the same time the largest number of faculties is the most exhaustive.

SAGE TEA.—We do not see the necessity for drinking such a preparation. If you *must* drink tea of some sort, this, prepared in a mild form, probably would not be specially injurious.

SALT.—*Question:* Why is it that a person often on refraining from salt for a day or two feels weak?

Answer Some persons experience a degree of stimulation from eating salt, just as people who are accustomed to the tobacco or alcohol habit feel nervously disordered or unstrung for a time if they relinquish the practice. As a general thing, however, salt is not regarded a stimulant. It is an alkali, and rather harmful in the carthy shape in which commerce furnishes it.

EGOTISM.—How do you distinguish the apparent egotism arising from the selfish propensities from that given by Self-esteem?

Answer: Self-esteem gives a quiet dignity and a sense of personal prerogative and merit. This feeling is not in itself aggressive. When it combines with appetite in man or animals, it assumes the best food or the best place to feed. Where it combines with the desire for property or office or for the possession of a beloved object, Acquisitiveness, Approbativeness, or Amativeness stimulate Combativeness and Destructiveness to vindicate the claim and thus the egotism of Self-esteem may assume an animal appearance. The action of mere animal propensity is a rude, bullying force; and these forces acting under predominant Self-esteem, become elevated and dignified. It may not always be easy to discriminate between the action of combined faculties; but it often may be done very clearly.

ORGANS IN PAIRS.—If the mental organs are in pairs, one in each hemisphere of the brain, why can not the side which is not injured carry on the work of the organ when an injury has occurred on one side only?

Answer: It can, and does, in numberless instances. In hemiplegia, or paralysis of one half or one side of brain and body, the functions are carried on by the uninjured side, though perhaps less vigorously than if both sides were in health. One eye can do the seeing, but not so perfectly as both. Inflammation of an organ in one side of the brain may produce an exalted action of the faculty, or even insanity, while the organ on the other side of the brain is in healthy condition.

What They Say

MENTAL AND PHYSICAL EMANCIPATION DEMANDED.—A correspondent residing in Staffordshire, England, writes thus of the PHRENOLOGICAL, to which he is a subscriber: "When such a journal as that becomes well circulated through the world, I am sure victory over drunkenness and ignorance and false teaching will be the result. I know that I shall never be as tough and enduring as I ought to be, owing to dyspepsia; but through your teaching I have come to see daylight, and I shall fight my enemies, who have shorn me of my health and strength, to the last. I long to see the drug-doctor system come to an end. Oh, the injury which I have experienced from it! and I see hundreds around me who will never be more than subjects for the doctors. While in America last year I called at your office and had my head examined. It was really wonderful how correctly my character was read. I subsequently sent for the 'Mirror of the Mind,' and all who know me when they read that can see my true character much plainer than before."

RENEWING THE CURSE.—Dr. Benjamin Rush, in his lecture on Intemperance, says that most drinkers deprave their tastes by tobacco before falling into the constant use of intoxicating drinks. In 1828, having then removed to Philadelphia, an old gentleman from Reading told me that when a young man all the land from Philadelphia to that city had become so poor from the culture of tobacco that nothing would grow upon it except, perhaps, mullein stalks and cinquefoil, until it had been redeemed with plaster of Paris and clover seed, and when the latter was in bloom it was plowed in and the land reclaimed and rendered fertile as it is at the present time. Just now the Agricultural Society of Berks County has offered a thousand dollars premium for the best acre of tobacco that shall be raised in the county. Townships which border on Maryland were made desolate by tobacco culture. Many years ago I knew a blooming girl from the country, in whose complexion the rose and lily were charmingly blended, and who had the finest blue eyes I ever beheld. Necessity compelled her to labor in some industrial line, and she found a place in a cigar factory. One year from that time her skin underwent a change, became tawny, and her face grew thin, and her very eyes assumed a tobaccoish hue. Fortunately for her, however, she found relief from her injurious occupation and soon after married a farmer. She did not long enjoy the change, for the tobacco poison had become rooted in her system, and brought forth its destructive fruit in the course

of a few year, rendering her insane, and she was for some time confined in an asylum.

M. W. HAMMOND, M.D.

INDECISION OF CHARACTER.—Of the many causes which hinder men from attaining success, indecision is undoubtedly one of the greatest. Without any determined course marked out for themselves, the majority of young people set out on the great ocean of life, depending more upon chance than any fixed law, whereby a definite result may be obtained. Thinking to-day, perchance, to amass a fortune in some pursuit, they, to-morrow, easily change it for some other. And so they spend their lives, continually varying, always discontented with the present, and ever looking to the future for brighter days, which their indecision does not warrant them to expect. How many young men there are, who if settled in their purpose of obtaining a livelihood, would ultimately be crowned with success. How many old men there are, who if they had not lightly and frequently changed their vocations, would now be in the enjoyment of happiness and every comfort, whereas their latter days are embittered by want and penury, and their home the work-house or asylum. It is the curse from which no one is exempt, that "man shall earn his bread by the sweat of his brow." Such being inevitably the case, let us not be over-fastidious as to the nature of our employment, provided it be honest.

If we feel dissatisfied with our lot (which in fact we all do, the king as well as the beggar), let us nobly and manfully endure it, and console ourselves with the pleasing certainty that soon all our toils and troubles and privations will end. Let us not too readily try to divest ourselves of the weight Providence has burdened us with. Whatever our condition or state in life be, let us discharge its duties, and if we calmly submit to the All-wise Creator's good will, rest assured our allotted span will be more happy and less troubled than if we day after day seek an evasive means of obtaining that which Crœsus, with his fabulous wealth, could only possess—a living.

W. W. MEAGHER.

SURROUNDING INFLUENCES AND CHARACTER.—It is seemingly thought, or at least asserted by certain individuals, that every person is merely the result of chance; that there are no natural laws governing our existence; that we are simply what we happen to be; and that if a person is gifted with only moderate powers, it is foolish to believe he can outgrow this dwarfed state through cultivation. This idea of human nature seems to me not in harmony with sound reasoning. Now suppose we plant two hills of corn in the same soil, and cultivate each with the same general care. In this case we have no reason to believe there will be any difference between these two hills in their final yield of grain. Now let us suppose that these two hills of corn come up; that one soon has large, thrifty stalks, and the other, from some cause, looks as though it was laboring under general debility. If we utterly neglect the one that is now prosperous, and at the same time make every possible effort to restore the other, have we not reason to believe that the latter will finally outstrip the former? Any well-informed farmer will tell you that under these circumstances the chances are greatly in the latter's favor. That small tree growing in your garden may be trained to grow in any direction you wish. So, that little son or daughter will be likely to grow up and live in accordance with early influences. But I believe that there is sometimes an exception to this rule. There are those whose dispositions to do right are so strong that they will conduct themselves properly in spite of all the evil influences that can be brought against them; but in such persons there is something rather out of the course of human nature—something nobler and better. Let not parents imagine their children by nature so perfect as to neglect giving them the proper moral instruction. And above everything else, set good examples; for children are pre-eminently liable to imitate. Teachers everywhere should pay no more attention to the education of the intellect than to the education of the moral nature; for without morality, human life is in reality a failure. And as all of us exert more or less power over our fellow-creatures, let us see that our influences may lead to some good.

LOWE.

WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

WHAT is the best thing to do in a hurry?—Nothing.

THERE is nothing that binds heart to heart so quickly and safely as to trust and be trusted.

MUCH of the charity that begins at home is too feeble to get out of doors.

THEY are generally better satisfied whom Fortune has never favored than those whom she has forsaken.—SENECA.

WHILE passions and minds are agitated, the fewer opinions we deliver before them the better.—LANDOR.

LIGHT makes music, in its passage playing on the visible and the invisible harp-strings of the universe.

TRUE temperance is the proper use of good things and the *total abstinence* from bad ones.

In speaking of a person's faults,
Pray don't forget your own;
Remember, those with homes of glass
Should seldom throw a stone.
If we have nothing else to do
But talk of others' sin,
'Tis better we commence at home,
And from *that* point begin.

THE table of life is abundantly supplied. If we don't eat so fast, it will taste the better; if we don't eat too much, we shall be better nourished; if we don't snatch, there will be enough for all.

"IF you want to make the bulk of men wiser do not put books into their hands which they will either throw away through indifference, or must drop through necessity; but give them employment suitable to their abilities, and let them be occupied in what will repay them the most certainly and the best."—PRES. DUPATY.

MIRTH.

"A little nonsense now and then
Is relished by the wisest men."

"BABIES, after having taken one bottle of my soothing syrup, will never cry more," says a celebrated compounder of soothing syrups.

"ARE you lost, my little fello[illegible]?" asked a gentleman of a four-year-old one day in Rochester. "No," he sobbed in reply; "b-but m-my mother is."

A BOY was asked what trade he preferred to follow. "Well," said he, "I guess I'll be a trustee, for ever since father has been a trustee, I've noticed we always get pudding for dinner."

A LITTLE girl said to her mamma, "Mamma, have you heard of the man that got shot?" "No, my child, how did he get shot?" asked mamma. "Oh," said young precocious, "he bought 'em."

SOME men can never take a joke. There was an old doctor, who, when asked what was good for mosquitoes, wrote back: "How do you suppose I can tell unless I know what ails the mosquito?"

LAVENDER was aroused in the middle of the night by his wife, who complained that she heard a noise. "What does it sound like?" said he. "It sounds like something ticking," said she. "It's probably the bed-ticking," he murmured, and went off to sleep again.

"WILLIAM," said one Quaker to another, "thee knows I never call anybody names; but, William, if the Governor of the State should come to me and say, 'Joshua, I want thee to find me the biggest liar in the State of New York,' I would come to thee and say, 'William, the Governor wants to see thee particularly.'"

Library.

In this department we give short reviews of such NEW BOOKS *as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor us with their recent publications, especially those related in any way to mental or physiological science.*

THE PUBLISHERS' TRADE LIST ANNUAL, 1877. Preceded by the first provisional supplement to the "American Catalogue," and the American Educational Catalogue for 1877, with a sketch and portraits of the Harper Brothers. New York: Office of the Publishers' Weekly.

This ponderous volume is an acceptable one to us, as it is to all who are related to the book trade. Since the beginning of the series, five years ago, much progress has been made in the arrangement of the publishers' lists, which comprise its contents in the main; and other features of peculiar interest have been added in the issues of the past two or three years, which have enhanced the Annual's value.

In this edition the general lists are not only more complete, but a fresh element has been introduced, which will be appreciated by all booksellers and book-buyers, viz., the Reference List, or American Catalogue.

The sketch of the Harper Brothers is a fitting testimonial to a great business firm and brotherhood, and finely illustrated by the superb steel portraits.

PAPERS READ AT THE FOURTH CONGRESS OF WOMEN, held at St. George's Hall, Philadelphia, October 4, etc., 1876. History of the Association for the Advancement of Woman.

An interesting compilation. Several of the articles are quite masterly in their treatment of the topics selected, and they are not all of the special *woman* character. A considerable amount of practical information concerning Education, Home Management, Co-operation, Social Morality, is accumulated in these papers, and no one can read them without profit, and the impression that there are among us earnest, thoroughgoing, studious women whose influence will be productive of good to society.

The document may be procured by addressing Mrs. S. J. A. Spencer, Washington, D. C.

PERSONAL APPEARANCE AND THE CULTURE OF BEAUTY, with Hints as to Character. By T. S. Sozinskey, M.D., Ph.D. 12mo, pp. 196. Philadelphia: Allen, Lane & Scott.

One might think that we had treatises enough on this subject. Certainly there are enough of the type represented by the warm book prepared by the once well-known Lola Montez. This new volume, however, finds a fresh field in a philo-

sophical consideration of the questions relating to the subject of beauty. He is learned, citing the *dicta* of ancient and modern authors as occasion may appear to warrant. In fine, we think that the reader is more conspicuous in his pages than the observer. In the Introduction our doctor of philosophy speaks of its being the practice nowadays "to go to some trouble and expense to improve the mind," while the body is "virtually allowed to take care of itself, its well-being is left to chance." Some regard to the ladies and gentlemen of society, and some inquiry at the drug-stores, would show emphatically enough that the "arts of beauty" are much practiced. The cultivation of appearances is carried to an absurd extreme in some classes, as any one who has ever visited Newport or Saratoga must know. But if our author mean that the masses neglect important hygienic and physiological means for the improvement of their bodies in a substantial manner, we must agree with him. We are told in the course of the volume that health is a basic element to beauty—Homer, Broussais, Mrs. Sigourney, Galen, and others being cited to sustain the proposition. In the chapters devoted to particular features—the nose, eyes, teeth, hair, etc.—some good suggestions are given with reference to their care; but now and then some drug compound is prescribed, which can not obtain our ready sanction, however much it or similar preparations have medical sanction. As a whole the book exhibits care in the preparation and a cultivated literary taste.

PUBLICATIONS RECEIVED.

THE MONTHLY WEATHER REVIEW FOR JULY, from the office of the Chief Signal Officer, U. S. War Department.

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LECTURES AND ESSAYS. By Virgil W. Blanchard, M.D. The subject of this pamphlet is what is termed "Food Cure." It seems necessary nowadays to impress upon the public mind the necessity of selecting good food, so loose and reckless have people become with regard to what should be a subject of their most earnest consideration.

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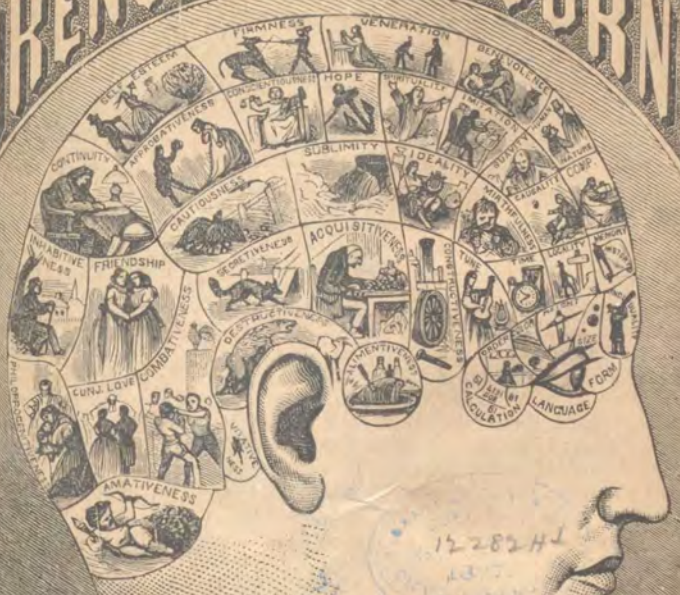
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THE PHRENOLOGICAL JOURNAL AND LIFE ILLUSTRATED.

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GEORGE W. McCRARY, SECRETARY OF WAR.

OUR troubles with the Indians of the Black Hills, and with Mexico on account of the desperadoes who encroach upon our Texan border, have brought into special prominence the military strength of the nation, and consequently he who controls

the Department having in charge the movements of our forces is a subject of much discussion. It is certainly appropriate that he be introduced to the public through our columns.

The portrait of this gentleman indicates health, strength, momentum, endurance, and that kind of vital power which furnishes material for the efforts demanded of brain and muscle. He does not look care-worn, jaded, or wearied, but as if he had vitality enough to furnish all the motive force for any effort which he might be called upon to make; and that there would be a surplus of power, as it were a balance in the bank after paying all claims. The fullness of the face outward from the nose, and also outward from the mouth, indicates excellent breathing power and digestive power—in one word, vitality. Those who are sharp and thin, often have a great deal of mental capacity, but find it impossible to give that sustaining force to the brain which is necessary for the maintenance of a high order of labor. Thomas H. Benton could make a speech in the Senate every day for thirty years. He could stand in the middle of a circle of fierce and vigorous opponents, and like a bear bayed by dogs, could fight right and left, and come out of the struggle unwearied, while some thin men with larger brain and wider range of thought, and more of culture than Benton had, could make a brilliant effort now and then, only once or twice perhaps, during a session of the Senate. Mr. Benton was ever fresh because he had a Niagara of vital power to back up any effort, physical or mental, which he felt called upon to make. The organization now under consideration has not so much of toughness and hardihood as belonged to Benton, but he is more genial, mellow, pliable, and adaptable; is not so dogmatic in his spirit, not so fond of controversy, has not so much base of brain about the ears to give propelling force as the late eminent Senator.

This is a smooth working organization. He will do a great deal of mental labor without much friction or fret or worry. When he speaks to subordinates, his voice does not carry a harsh, dogmatic, overbearing spirit. He is quite as decided in his spirit as Benton was, because he has large Firmness and Conscientiousness; but he does not exercise his power through Combativeness and Destructiveness. His commands do not seem to carry a threat, though they carry influence. His requests are potent. He does not worry people, nor excite their antagonism. As a lawyer, he would make a jury feel kindly inclined toward him and his cause, and with his large Language, he would be an excellent speaker.

He has a good memory, and acquires knowledge readily; is clear-headed, and carries his knowledge where he can use it. He has the power of analysis, and good common sense; is more a critic than a logician. He understands motive, appreciates character, reads men at sight, and knows how to carry himself toward them in a smooth and persuasive manner. He gets better service from men than is common under similar circumstances. People are willing to do things that are inconvenient for his sake. If he employed men to work for him, they would not study to see how little they could do, but rather how well they could perform their duties, and how well they could please him.

He inherits his mother's quick knowledge: the intuitive way of reaching truth comes from that side, and he is more like her than the father in intellect. He is orderly, inclined to systemize everything; describes what he knows clearly, and makes himself always understood. He is ingenious; finds out the quickest, easiest, and cheapest way of

attaining ends. He is generous in his spirit, respectful in his manners, reverential toward the Deity, honest in his purpose, true, just, and upright, and very firm. He has a rather independent spirit; is not overstocked with the love of praise, and if thrown into the shadow of unpopularity wrongfully, he stands his ground, faces the world, and thus bears on to success.

We judge that his social nature is strongly marked, that he has many friends, that he is decided in judgment, and firm in his decisions; is adapted to practical details, nothing escaping his attention. He is a critic of everything, and remarkably well-informed, taking his opportunities as they have been. He will always be a student, always be hungry for knowledge; will never feel that his edifice of information is complete.

He is frank to a fault; open-hearted; dislikes men who are tricky and secretive, and unduly reticent. Ne never springs surprises and traps on people. He tells what he wants in plain language, and drives directly to the objective point.

Here is a healthy and vigorous brain amply sustained by one of the best of physical constitutions, and if he will live moderately, avoid nourishing the system too much so as to produce a plethoric condition, he will be likely to hold on to a good age, and be young in feeling and manner at seventy-five.

This gentleman is the youngest of the Cabinet officers selected by President Hayes. He was born on the 29th of August, 1835, in Evansville, Ind.

Soon after his birth his parents removed to Wisconsin Territory, settling in that part of it which afterward became the State of Iowa. He worked upon the farm for several years, and saved enough money from his earnings to attend a Western academy, where he studied for some time. He had been industrious and prudent in the use of his opportunities to obtain information, so that at nineteen he possessed a fair education. He aimed to be a lawyer, and to that end in 1854 made his appearance in the office of Rankin & Miller, in Keokuk, dressed in a suit of homespun. He was accepted and installed as a student and clerk, but his appearance was so much against him as to excite ridicule and sarcasm among strangers who saw him in the office. One of his employers, Samuel F. Miller, now Judge of the United States Supreme Court, saw through the homespun, and found the material of an able man beneath. Being asked what he expected to make of that "gentleman," alluding to McCrary, he replied: "A first-class lawyer."

A year after his entrance into the law-office, he was admitted to practice, having then only reached his twentieth year, and was successful from the beginning of his career. Taking an active part in politics, in 1857 he was elected by the Republicans to represent Lee County in the State Legislature, and was the youngest member in the House. He discharged his duties with marked ability, and in 1861 was elected to the State Senate. Here he served until the close of the war, holding the position of Chairman of the Committee on Military Affairs during his first term, and that of Chairman of the Judiciary Committee during his second.

Upon the appointment, in 1863, of Judge Miller, his old principal, to the Supreme Court, Mr. McCrary was selected by him as his successor in business, and from that time until 1868 he devoted himself to the practice of his profession. He was then nominated for Congress by the Republicans, and was elected by a majority of 5,013. In 1870 he was nominated by acclamation, and in the succeeding election was successful by a majority of 3,366. His renomination in 1872 was again made by acclamation, and he was a third time elected. In the campaign of 1874, when he was a fourth time elected to Congress, he received 11,384 votes, against 9,521 for the anti-monopoly candidate. He was not a candidate for re-election last fall.

His record in Congress is one of which any man might be proud. He has steadily opposed land grants, fought sturdily all monopolies, insisted from the first upon retrenchment and economy, voted to abolish the franking privilege, and has been one of the most prominent advocates of a thorough and radical reform in the civil service. When he was first elected to Congress he served on the Naval Committee, the Committee on Revision of the Laws, and the Committee on Elections. The latter committee had charge of the famous contest between Brewer and Adams, of Kentucky, and in its disposition, Mr. McCrary made a minority report which so favorably impressed the House, that all precedents were thrown aside, and the minority report adopted, and, what may be deemed a very strange thing in these days of sharp partisanship, the Republican House unseated a Republican and put a Democrat in his place. The familiarity he had shown with election laws, won for him the appointment, at the beginning of his second term, of Chairman of the Committee on Elections—a compliment unheard of before for so young a member. In the Forty-third Congress he was Chairman of the Committee on Railways and Canals, and in the last Congress he was a member of the Judiciary Committee. Mr. McCrary took a prominent part in the formation of the Electoral tribunal. In Congress he won not only a reputation for tireless industry, wisdom, honesty, and faithfulness, but has shown by his life that it is possible for a man to be a politician, and at the same time to retain his integrity, so that after ten years of public service, no taint of any shape can be alleged as affecting his reputation.

In many respects this gentleman's career is a remarkable one, and may be cited as a suitable example for the consideration of American youth. His rapid advancement has been won by diligent study, personal effort, and positive merit. Circumstances, it must be admitted, have been much in his favor, but his energy and integrity have been the principal coadjutors.

Mr. McCrary is of medium height, rather full, but not excessive habit; his movement is deliberate, yet decided, showing the man who knows what he has to do. It is said that he was out of place in the House of Representatives, because its members generally act from instinct, or for self or party interest. If this be true of the men who are sent to Congress, there is great need of legislators of Mr. McCrary's stamp—of men possessed of true public spirit, and too honest to suffer themselves to be used as the vehicle of a purpose.

JUDGES OF CHARACTER.—Nowhere, perhaps, does popular belief exhibit its vulgarity and inadequacy more conspicuously than in the readiness of most persons to pronounce an opinion respecting the characters and motives of others. The confidence with which many a man and woman will talk about the desires and habits of a comparatively new acquaintance must strike a reflective mind as a signal illustration of the eagerness of mankind to seem wise. There are many whose modesty and good sense would prevent their giving an opinion on any point of scientific knowledge or æsthetic appreciation, who nevertheless feel no hesitation in passing judgment respecting matters of conduct of which their knowledge is infinitesimal. Numbers of people who do not in the least seem to be ashamed of ignorance respecting most matters of discussion, are quite sensitive as to their reputation for knowledge with respect to the intricacies of human character. When, for example, there is an addition to the society of a small town through the arrival of a new family, there is the greatest impatience to have a definite and fixed opinion respecting the idiosyncrasies of the new-comers. There will certainly be more than one knowing person whose supposed quickness of perception will at once enable them, satisfactorily to themselves, to define and characterize the man or woman about whom curiosity is naturally aroused. It is curious, too, to notice the readiness of others to accord to these persons the special faculty for intuition which they claim for themselves. It has often been remarked that the first condition winning the confidence of others is

to display a fair amount of self-confidence, and this truth is fully illustrated in the case of the people whom we are now considering. When a lady gives out among her acquaintance that she is an expert in matters of character and disposition, she speedily gains an enviable reputation for this kind of prescience. If there is any new character to be deciphered, about which there hangs a certain mystery, she is the authority to whom all repair in order to acquire definite information. If a scandal is just germinating, and everybody is on tiptoe respecting its real nature and results, it is this connoisseur who is resorted to for a final solution of the problem. In this way people are sustained in the pleasing belief that they possess some easy avenue to the minds and hearts of their fellows, thanks to which they are enabled to dispense with the tardy methods of observation, comparison, and analysis, and to read a new character as confidently as an unfolded letter.

"FOWLERISM."

WE find in the *Lutheran Observer* for August 24th, an editorial article under the courteous title of "Fowlerism." It commences: "It is not more than thirty years since Mr. Fowler, of New York, imported from Europe the theory of Phrenology. In this country it found congenial soil, and grew rapidly."

This statement contains two errors and one fact. It is *forty-three* years since the Fowlers commenced to lecture on this subject, and they *did not* import it from Europe. The immortal Spurzheim came here in 1832, and delivered lectures to audiences of the learned in theology, in literature and science, in Boston; and would have lectured in all the large places to the best thinkers of the nation had he not died, from the effects of change of climate and overwork, on the 10th of November of that year, having been in the country but about three months. Prior to that time, however, the works of Gall, Spurzheim, and Combe had been extensively read in this country, and the eminent Dr. Charles Caldwell, of Transylvania University, Ky., had lectured and written much upon the subject. So much for the two errors. In regard to the one fact, we are happy to affirm that Phrenology "in this country found *congenial soil* and *grew rapidly*." The article goes on:

"A cluster of affiliated studies have gathered around this simple original, until it has become a compacted, consistent system of mental and moral science. It is surprising how it has permeated the thinking classes on questions of reform. It meets us and confronts us in every agitation on any question of public morals. Two of its features have become so prominent as to force themselves on our attention. It maintains that crime is not the fruit of responsibility in character, but organic. The cranial developments of the criminal were unfortunate. He inherited an impulse that could no more change than you can turn the winds of heaven or the tides of the sea. He brought into the world an organism that determines his career with all the certainty of fatalism. Hence the pity that public sentiment bestows on bad men."

It has always been amusing to us to hear the objection of fatalism raised against Phrenology, especially by those who hold to the doctrine of Calvinism, which maintains in so many words that "God from all eternity foreordained whatsoever cometh to pass." We suppose our Lutheran brother may not be charged with the highest type of Calvinism; but if he were a strict Calvinist he would incline to make and insist on the same objection.

Now there is, in nature, a certain phase of fatalism which everybody recognizes, so far as individuals are concerned. Abraham Lincoln, for example, was six feet four inches high, and he was not consulted in regard to how tall he should be, and he could not help it. President Van Buren was five feet six inches. He was naturally a man of smoothness and policy. General Jackson was offensively frank. "Who maketh us to dif-

fer?" One man tends to fatness, another is lean and thin; one is calm, cool, collected, and self-poised; another is nervous, sensitive, and irritable. There were differences in the twelve chosen apostles as marked as can well be found in any Church, or other congregation; and we suppose that no doctor of divinity would attempt for a moment to maintain that the gentle John and the impulsive Peter were not constitutionally different, and, if you please, intended to be different. There is, then, an heredity which obtains in every community; in fact, in the same family, and this is a kind of fatalism. There is more truth than poetry in that old homely statement of Scripture, which says: "The fathers have eaten a sour grape, and the children's teeth are set on edge."—*Jeremiah* xxxi. 29.

If the history of this country be traced, it will be found that we have had a wave of war once in about twenty-five years, seeming to indicate that the children born during a season of war inherited a tendency to be quarrelsome or defensive, or patriotic, or whatever name it may be called. We may go back to 1750, about the time of the French and Indian wars, and jump along to the Revolution, and to the war of 1812, and the Mexican war in 1847, and the great struggle of 1861–65, and it will be easy to see how boys born during one time of war would be ready to enlist when the next war came on; and the boys or young men of one war time would be fifty years old and the legislators of the next. And these birth influences, in a sense, are a fatality which may be guided, but can not be abrogated. We are taught by Phrenology, however, that inheriting a tendency from the circumstances of one's birth does not compel, in a thinking, responsible, reasoning being, absolute obedience to the impulse of the force elements. We can array a dozen high faculties against one low one, and thus hold it in check. We often halt between two opinions; we often hesitate when tempted, and royally rise above the temptation. Here is where a man's freedom of will comes in.

Phrenology teaches, and we wish all our religious editors would get hold of the idea and use it, namely, that the different faculties may be recognized in childhood before they have come to such strength of development as to defy modification. Phrenology teaches that if a boy unfortunately inherits more Combativeness and Destructiveness than is comfortable for his acquaintances and friends, and if the mother can understand that fact while he is yet in her arms, she may modify her treatment of him, and thus modify his development, bringing other faculties into activity, and thus cultivating their strength, and also avoid such treatment of him as would annoy and excite his rebellious faculties. Does our good brother's theology and mental philosophy recognize a doctrine of this sort? If not, we can help him by our mental philosophy, and he ought to have helped himself by it long ago. It has been the misfortune of the world that it has had no sound mental philosophy outside of the Bible until Phrenology was introduced. It had not been known, until taught by Phrenology, that the faculties which will show themselves in manhood, can be detected in childhood by the developments of the brain, giving mothers and teachers ample opportunity to train against the inherited disposition, if necessary.

The popular method is to wait until the dog bites before his muzzle is put on. If we can not know beforehand what a child is inclined to do or to be, we can not so wisely or so well train against it. When a farmer sees a weed springing up by the side of a blade of corn, he removes it at once. It looks weak, and a stranger would suppose that the corn would be able to hold its own; but let that weed grow for a month, and its extirpation may uproot the tender plant of the desirable crop. Phrenology shows what weeds are likely to choke the true plants, and how to modify and lessen the vigor of those which are inherited too strongly.

Many a good boy, if permitted to run wild in the streets, will there get culture which will develop the base of his brain, and he will become turbulent and wicked, quarrelsome and unmanageable; whereas, if he have training such as every child has a right to claim, his great natural energy may be kept under proper restraint, and his higher faculties become properly developed. Solo-

mon's proverb deserves a greater prominence than is usually accorded it: "Train up a child in the way he should go, and when he is old he will not depart from it."

People who try to oppose Phrenology talk as if there was no such thing as inherited peculiarities, and no such desirable result as that which comes from training; but they think they must wait for Divine grace to work a miracle upon the miserable sinner before he can be decent. Permit us modestly to suggest, that the proper way to secure the Divine aid is to train up a child in the way he should go; obey the command of the Lord in teaching children what is right and proper, and regulating their conduct; then may we confidently hope for that Divine grace which will finish the structure. Millions of the human race are bred in squalor and ignorance, are trained toward vice and not toward virtue, and it requires Divine grace and the stern statutes of criminal law to keep the men out of State's prison; whereas proper training and proper surroundings might have made them worthy citizens, self-regulating, and capable of fair moral and religious manifestations, and thus ready to accept joyfully the Divine grace.

The *Observer* goes on to state: "The other feature of Fowlerism is, that it cruelly shuts against a bad man every door of hope. His inherited tendencies have hardened into a growth that no power can change."

This matter is perhaps already sufficiently answered. While there is a law of hereditary endowment there is also a law of training and culture, and the advantage which Phrenology has over other systems of mental philosophy is, that you can tell beforehand what characteristics a boy will naturally incline to. If he has mechanical talent, he shows an indication of it in his development. If he lack that power, no time need be wasted in the fruitless attempt to make him an excellent workman.

The *Observer* goes on to say: "An inherited appetite is no relief from responsibility. The guilt of the murderer is not reduced because his father committed the same crime; the drunkard is blameworthy, though his ancestors for a hundred generations were victims to the vice; a transmitted appetite is no excuse for its wanton indulgence, and does not in the least change the color of the act. The thirst for strong drink may be raging, but that should make us the more careful."

We infer from this that our good brother believes a person can inherit genius, idiocy, or a tendency to insanity, and doubt not that his paper within the past three years has given information to the public that some person had descended from a family in which insanity cropped out frequently. The man's father and grandfather, and perhaps an uncle or two, were insane. There is no doubt that persons do inherit a love for liquor, and it is a very strange idea to put forth that it makes no difference with a man's responsibility, though his ancestors for a hundred generations were victims to the vice. We ask our friend if a hundred generations of people have been addicted to a given line of conduct, will it not stamp the progeny with a tendency in that direction? Suppose a man's ancestors for a hundred generations had been holy men, preachers of the Gospel, would it not astonish the editor of the *Observer* if the son should turn out a scalawag? Would he not hold up his hands in grief and wonder, and say that he had disappointed the just expectations of the world? We do *not* claim that a man is guiltless if he commit murder, though he may have descended from murderers; or that men whose ancestors for a hundred generations may have been victims of alcoholism can not and ought not to refrain. Doubtless the posterity of such a person, if rightly influenced, might be able to rise above the temptation, and in a few generations the wrong tendency might be trained and cultivated away. The question of how much a person inherits, and how much of responsibility he may have because of certain inheritances, is a puzzle to the world. We have never yet met with a religious person that stood aloof from Phrenology because, as he thought, it seemed to sustain the idea that if a man has organization he must therefore have character or conduct, who would not take *one side of it* and rejoice in it. If a man were benevolent and generous and liberal and just, men will

rub their hands and thank God that his ancestors for generations back have feared God and worked righteousness, and why should not this son? If a man show eminent talent in learning, in art, in mechanism, in any skill of excellence, such men say, "Of course! his father and grandfather before him have been eminent in these directions, and why should not the son be?" If a person show the spirit of honor and truth, if he is beautiful and manly and noble in his appearance, these men say, "Of course! he comes from such stock. All his people before him have been skillful or honorable or courageous or beautiful. Why should not he be?" This is all very well when the things that are inherited tend to goodness. But suppose the boy inherits squint eyes, awkward teeth, a snub nose, bandy legs, a hunch back, a club foot, or a disagreeable temper, or a spirit of meanness. When there is no theological point at issue, even *these* people say, "What could you expect better? Look at the stock he came from." The phrenological theory is this, that *organization* is the foundation of character; and *culture*, good or bad, *modifies* character. We throw it to the breeze rejoicingly, and are happy to say that Phrenology is the hope of the world. It is the basis of culture; it teaches how to cultivate. There are few well-balanced organizations; there are few thoroughly wise men or harmonious characters. There are few who are so good and so well balanced that we can not detect in them unfortunate tendencies, "easily besetting sins." And since, according to Phrenology, these strong or weak traits of character are indicated by development even before the child is five years old, it enables teachers and preachers and parents to endeavor to lead them, *not into* temptation, but *deliver them* from evil; to train them in the ways of righteousness; to discourage and disgust them with that which is evil, and thus mold their characters.

We often hear men say that a horse that has a fiery disposition was spoiled by the man who broke him. He was nettled and worried and fretted, and his disposition was injured beyond recovery. And we may say the same about boys and girls; evil communications have corrupted good manners; and those that go into the society of the wicked, shall they not become contaminated?

The next article following the one we are reviewing is a singular commentary on the editor's opinions about "Fowlerism." The article is entitled, "Sinless Perfection." The editor says: "Spurgeon may have a homely way of saying a thing, but he has a hearty, forcible way. Over the signature of 'John Ploughman,' in an English paper, he gives his views on the doctrine of sinless perfection:

"'He who boasts of being perfect, is perfect in folly. You can not get white flour out of a coal sack, nor perfection out of human nature. He who looks for it had better look for sugar in the sea. Every rose has prickles, and every day its night. Even the sun shows spots, and the skies are darkened with clouds. Nobody is so wise but he has folly enough to stock a stall at Vanity Fair. Where I could not see the fool's cap, I have, nevertheless, heard the bells jingle.'"

The *Observer*, in the article we have been reviewing, says "there is a power in the world to strike off every chain of vice. Divine love may come down right across a wicked life, and make one part old and the other part new;" thus attempting to show that no matter how wicked and bad a man is, he can be made as perfect as the Divine grace can make a man; and then the article quoted with approval from Spurgeon undertakes to show that man can not be very good any way, even under Divine grace. "We can not get white flour out of a coal sack, nor perfection out of human nature."

"Oh, consistency, thou art a jewel!"

We do not wish to be misunderstood in reference to hereditary development, nor in regard to the law and doctrine of culture as affecting human development and human character. In the first place, no man, no animal, has anything which he has not inherited. I have thumb-nails because my ancestors have had them; I have something of courage, something of justice and benevolence, something of ingenuity, something of affection and intellect, because those of whose stock I am born had them before me;

and I am a white man because my ancestors have been white men. If they had been black, with wooly hair, would I not have had the same? When a man has six fingers or six toes, when an unfortunate child has a great red spot on the side of its face, people ask what was the cause of it. Every man of sense believes that everything that belongs to us had an origin, a cause, a procuring reason. If a child is born having a peevish disposition, a pale countenance, an anxious, sad look, do we not hear the most religious of people, as well as everybody else, say he must have been born of sickly parents, or his parents must have been suffering under sad and sorrowful and depressing circumstances, and these conditions have been impressed into the poor child's constitution. But when we see a child sunny and happy, mirthful and frolicsome, rejoicing in the mere fact of living, is it not a natural inference in the mind of everybody that he must have been born into a family of happy people, who were not molested and pestered, fretted and worried, anxious and gloomy? If in any family of robust and healthy people there seems to be a puny child, people wonder why he did not inherit a better constitution. When a child having light hair and blue eyes appears in a family, all the rest of whom wear the brunette complexion, people look at each other, and are sometimes rude or wicked enough to give to each other incredulous smiles; and not a few poor mothers have been rendered extremely unhappy because public sentiment threw a shadow of suspicion over them. We remember a case of a sunny blonde in a family distinguished for dark hair, sallow complexion, and black eyes; but when we became acquainted with the father's father, we found the granddaughter was a perfect type of the old gentleman in looks, expression, and motion.

It is a source of gratification and thankfulness that the cultivation of one generation may be inherited by the next as natural or constitutional developments; and if this superior development be cultivated in a high degree, the next generation will have still more; and thus civilization with its schools and churches, its literature and science, develops men from low-browed, broad-headed savages, to those thinkers with broad, high foreheads, and to those narrow and high-headed philanthropists that to-day grace and bless the world. Would to God there were more of them!

Everybody who seeks the information knows that animals are bred from low stocks to better by selecting the finest specimens for breeders. Horses, cattle, sheep, swine, are developed. Let a man look at the beautiful Chinese pig, with its small limbs and little feet, with its short, small nose, and compare it with the picture of the old wild hog, with great legs and a long, bony back and bony head, and a snout a foot and a half long; let men look at the fine English race-horse, or the sturdy, stalwart work-horses of that country; let him look at the Durham and Devonshire and other fine breeds of cattle, and deny the doctrine of hereditary descent, and the grand doctrine that character and quality come from organism and culture. The great law is this, that cultivating a faculty develops it, gives its organ strength and largeness; and the lack of culture gives weakness of muscle or brain. If men are wanted to row in a college regatta they are trained. Those are selected who are most muscular to start with, who have the best organization for strength, activity, and endurance; then they are cultivated and trained. Pugilists do the same, and they learn that culture gives development and quality and character.

Let us cultivate men toward religion and goodness, and not stand off and harp against the science that tells the world how to do it; and the progress of the race in goodness, godliness, and happiness shall be the result.

THE children have of late had some familiar talks on Phrenology given them during their meeting hour, which has set their little heads to observing and speculating. The grandpa of one of the five-year-olds, just now here on a visit, and who knew nothing of the above talks, was consequently somewhat taken aback when his little grandson, after a grave scrutiny of some minutes, deliberately asked, "Grandpa, what *temperament* are you?"—*Oneida Circular.*

BRIGHAM YOUNG, THE MORMON LEADER.

BRIGHAM YOUNG was born in Vermont, at Whittingham, on the 1st of June, 1801. His father was a farmer, and he was the ninth of eleven children. In early life he assisted on the farm, both at the place of his birth and at Sherburne, Chenango County, New York, whither his parents had removed. There he received the little education which was his in boyhood. He learned the trades of painting and glazing, and worked at them until he was past thirty years of age. As a boy and young man he exhibited no remarkable capabilities and attracted no consideration; his temperament being of a slow character, inducive of late maturity and rather deliberate action of faculties. In 1833 the crisis in his life occurred. Joseph Smith was then preaching in the neighborhood of Sherburne on the doctrines of the book of Mormon, that remarkable "revelation" being then quite fresh, as it had been "dug up" but two years before. Brigham was very much impressed by these new ideas, and he repaired to Kirtland, Ohio, the first Mormon rendezvous, where he plighted his faith and received the appointment of elder. He proved in the start an excellent proselyte, and set about converting others with great zeal. Experience added greatly to his confidence in himself, and his influence rapidly increased. A year or two later he was ordained one of the "twelve apostles" of the "Church of the Latter-Day Saints of Jesus Christ."

In 1836 he became the president of the "twelve apostles." From Kirtland the Mormon company was removed to Independence, Jackson County, Missouri, and shortly afterward to the town of Nauvoo, in Western Illinois. It will be remembered that in Missouri the "saints" suffered from religious persecution, the Governor threatening to exterminate them if they did not leave. At Nauvoo, however, they were received kindly, and there they became established. In 1840 Brigham went to England as a missionary in behalf of his community. Immediately on his arrival he commenced to preach, and established a newspaper called *The Millennial Star*, which is still published. His ministry was remarkably successful, for within one year he returned to America with nearly eight hundred converts. A few years later trouble arose in Nauvoo, on account of the introduction of their polygamic system and the interference of the town authorities to prevent it. Joseph Smith and his brother Samuel were arrested and put into jail, and subsequently killed by an excited mob. Young was in Boston at the time, but he hurried to Nauvoo, gathered about him all the Mormons he could find, and proclaimed himself president, that office having been assumed by one of the Mormon counsellors, Sidney Rigdon, but without authority, as alleged. The Mormons became more and more unpopular in Nauvoo, so that it was decided to seek another place of residence, where they could be master of the situation. Brigham assumed charge of their migration, and led them westward across the Mississippi without a definite point in view. It was in the winter, too, and the people being without sufficient food or protection, hundreds perished by the way. In the autumn of 1847 they reached and crossed the Missouri River, and built log huts near what is now the city of Omaha. Meanwhile the Mexican war had broken out, and five hundred or more of their best blood were enlisted by the Government as volunteers in the struggle. They enlisted, it is said, by the advice and urgency of Young, receiving for their services twenty thousand dollars bounty money, which Young took charge of and kept. He set on foot, next, an exploring expedition, which proceeded as far as Salt Lake, where a stand was made, and after some deliberation that region was selected as the future home of Mormonism. To that place were transported all the faithful who had been left behind at different points, and thereafter all the converts who were made in Europe and this country. Brigham Young assumed high powers, styling himself "prophet," "revelator," etc., as well as "president" of the Mormon people. They, in fact, now regarded him as the rightfully-

appointed successor of Joseph Smith, and his sway over them became absolute.

In September, 1850, Congress gave a territorial government to the region, naming it Utah, and President Fillmore appointed Brigham Young Governor of the Territory for four years. This act, we presume, was done in grateful consideration for the services which Brigham had performed in furnishing recruits for the Mexican war. Of course, it added greatly to the influence of the Mormon chief. His preaching was, indeed, with power, and the missionaries which were sent abroad met with extraordinary success. Soon the official census showed that there were more than eleven thousand persons in the Territory, and the practice of polygamy contributed greatly to the increase of population. There were Mormon representatives at Washington who were successful in obtaining favors of one kind or another from Congress; one of which was the distribution of the territorial lands, most of which were appropriated by the leaders of the Church. An effort had been made previously to secure the admission of the Mormon community as a State, with the name Deseret. The question was considered in Congress, some modifications of Brigham's schemes made, and the grant of a territorial government issued. The political system of the Mormons at this time was what it has substantially remained ever since: universal suffrage in the fashion of imperial France, every man having a vote, but being supposed to vote by the direction of the counsel of the Lord through His prophet, Brigham Young. After a few years the general Government found it necessary to interfere in the affairs of Utah. Colonel Steptoe, of the United States army, had been appointed Governor at the close of Young's term of office, but the latter shrewdly contrived to obtain the Colonel's sanction to his own re-appointment, Steptoe resigning in that behalf. The administration deemed it necessary to quarter some troops in Utah for the purpose of maintaining a proper



recognition of Government authority. Of course, the Mormons were restive under such restraint, and trouble arose. The Mormon war of 1857 was the result. President Buchanan dispatched three thousand troops to Utah for the purpose of carrying into effect the orders of Government, and the Mormon chief promptly issued a proclamation which was substantially a declaration of war, or of resistance to the United States, which placed the Territory of Utah under martial law, constraining every man of the faithful who could bear arms to withdraw from his usual vocation and train as a soldier. During the winter negotiations were set on foot which resulted in Governor Cummings being received by Brigham and taking in charge the territorial records and papers. Brigham, of course, was greatly dissatisfied with this result, and he promulgated an order which he asserted was inspired by Divine authority, commanding the people to leave their homes and migrate to the South. In this, as in all other things, he was obeyed, the people actually getting ready and starting with their household goods and provisions. A halt was made at Provo, fifty miles from Salt Lake City. This movement was made early in the spring, and the company suffered much from inclement weather and cold. A few days after this halt President Buchanan sent a proclamation of pardon to the Mormons, and they returned to Salt Lake City on the 7th of June. The Mormon leaders now agreed to receive the officers of Government, and not to resist them in the execution of duty, but to obey the laws of the United States. This was the end of the so-called Mormon war, no sanguinary encounter having taken place.

It was in 1857 that the famous Mountain Meadow massacre occurred. Our readers, doubtless, are familiar with the circumstances of this terrible outrage, as they were recently set before the public in the testimony given on the trial of John D. Lee, a prominent Mormon elder, for participation in the affair, and who was found guilty and executed last April. Brigham Young's connection with that massacre has never been judicially established, although the opinion prevails that the unfortunate emigrants were murdered by his sufferance. In 1862 Mr. Stephen S. Harding was appointed Governor of Utah by President Lincoln, and one of his first acts on assuming the functions of office gave great offense to the Mormon chief. He had no sympathy with the practice of polygamy, and found nothing in Utah to modify his opinion of it as formerly entertained. Therefore, in his first message to the Territorial Legislature he denounced it, and called special attention to the fact that by it a recent act of Congress was directly set at naught. This message was suppressed by the Utah Legislature at the instance of Young, but was subsequently published by order of the United States Senate. Since that time civil affairs in Utah have been characterized by more or less trouble in their legislative and judicial administration, the officers of Government endeavoring on the one hand to execute the ordinances of Government, and the Mormon leaders on the other hand interfering with, embarrassing, and nullifying their efforts in various ways, shrewdly avoiding any disastrous results whenever their opposition had brought matters to a crisis.

During the past ten years Young had chiefly occupied himself in carrying into effect certain favorite notions with regard to his people rendering themselves self-sustaining and entirely independent of the rest of the world. With remarkable energy he set on foot all sorts of manufacturing and agricultural enterprises. One of his great aims was to prevent the "saints" from having commercial relations with outsiders. In the outset of the construction of the Pacific Railroad Brigham Young exhibited much hostility to it; but finding that fruitless, he afterward supported it, and went so far as to pay for the construction of the Uintah branch between Ogden and Salt Lake City.

In the many judicial prosecutions instituted against polygamy he, of course, occupied a chief place. His attention for several years prior to his death was largely occupied by them. His social relations were interesting, for the reason that he had fifteen wives of his own, and a large number

of others "sealed" to him. Prior to his embracing the Mormon faith he had been married, but was left a widower with two children. His father and family became connected with the Mormons as converts. His first wife in the polygamic relation was Mary Ann Angell. Ann Eliza Webb, who has become notorious on account of her application for divorce in alimony, was his nineteenth wife. The favorite wife of his old age was Amelia Fulsom, a native of Portsmouth, New Hampshire. During the latter part of his life she occupied an elevated position among the "saints." It is said, not to his credit, certainly, that the majority of his wives were never visited by him in his late years, but left to support themselves and their children as best they might in a life of drudgery and poverty.

Brigham Young was a man of robust and powerful physique. He was something over six feet high, with a great development of the chest and body, which gave him the appearance of being much shorter than he was. His head was broad, and largely developed in the basilar and posterior regions, somewhat narrow in the upper region of the forehead, and strongly projecting in the perceptives. His appearance was agreeable and impressive. He possessed an immense deal of that sort of attraction which is termed magnetism. The portrait accompanying represents him as he appeared about eight years ago, and certainly confirms these statements. Although lacking in education and in the first elements of oratory, he was fluent in speech and able to hold his listeners to his theme and obtain their consent. He possessed the faculties which give one good judgment of men, and he exercised them to advantage. This is one of the secrets of his remarkable influence over his people. His Self-esteem was enormous, and that, associated with his excellent business capabilities, gave him the success which was his in so extraordinary a degree. His Acquisitiveness was large, and the prosperity of Utah contributed to his own possessions, so that he became very rich. His estate is estimated at over two millions of dollars, and by his will is to be distributed among his kindred. This kindred he specializes as seventeen wives and their children. He was the father of fifty-six children, of whom forty-four are living. His personal habits were simple, and simplicity characterized the arrangements for his burial. He had given minute directions in this respect, and our Christian communities may find something of profit in their consideration. His body was inclosed in a plain red-wood coffin, and borne to the grave by his former employés and a vast concourse of people. Remarks were offered by Mormons of eminence, most of whom had been associated with Brigham Young in the conduct of the affairs of the Church from the beginning.

The question of the successor of Brigham in the Presidency has not yet been decided, but in pursuance with a "revelation" obtained soon after the great leader's death, John Taylor, now the oldest or most prominent apostle of the Church, has assumed the place until the true man shall appear.

FJÄLLTRASTEN.

FROM THE SWEDISH OF BISHOP TÉGNER.

On a lonely grave near Belten
Sat a Northern thrush one time,
Over wood and over mountain
Rang afar his wildest chime.

Wide across the blue lake rocking
Came a swan from Southern sea,
Splendid in the sunlight flashing,
Snowy wings were waving free.

What a wondrous tone and color,
Never voice so pure and clear,
As in Southern zone and summer,
From Apollo's bird you hear.

"Oh, poor Thrush!" she said, "how sadly
Every rule of art you break!
How long will you trill so badly,
Through the firs such discord make?

"Without taste, pray what is genius?
Strength, without its beauty fair?
Learn to sing, like me, harmonious,
After notes, with rule and care."

"But the muses' gifts are various,"
Said the Thrush, a little grieved.
"Southern tones may be melodious,
Mine were from the North received.

"Other stars with us are flaming,
Other feelings and desires;
How can song be one unchanging,
When so varied theme inspires?

"Art is but the world's great mirror;
Time, a people's epic ode.
Can, then, taste have other measure
Than by genius first bestowed?

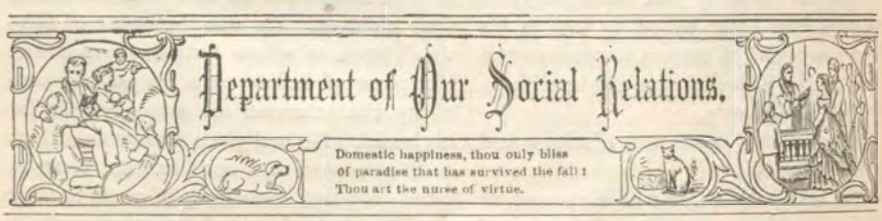
"Be forbearing, beauteous sister!
Every one must have his part;
Wild my song to you and dyster,
But is yours without a fault?

"Let us love all forms of beauty,
Let the Northern have its charm,
While we learn to value truly
Southern tones so soft and warm.

"Measure not wide gift of Heaven
By your narrow scale alone,
Many forms to art are given,
Though her noble soul is one."

Saying this, on daring pinion
High he soars to Oden's hall,
Till his song's sweet, wild dominion
Rules o'er mountain vale and all.

LYDIA M. MILLARD.



WHAT IS OUR DUTY?

THIS question is constantly being asked by scores of women who believe in justice, and who want to love and help their fellow creatures; by those who consider it their highest privilege to be of real service in the world. It would seem the correct thing to care in such helpful ways for those who are nearest at hand, in many cases those whom circumstance has brought under the same roof. Now, is this not in many instances a colossal and often impossible task, especially when kind actions can not be dissociated from intimate relations? One can help one's washerwoman or seamstress with most effectual results; because this assistance does not in any way compromise future intercourse. With your friend it is different. This friend, whom you like, respect, and with whose trials and successes you keenly sympathize, demands, on account of this friendly expression of regard, a certain portion of your time and thought. She is worthy in every respect, and yet the intimacy which she considers her privilege—if not her right—you find yourself strangely averse to. Wherefore? What does it mean? and now you begin to analyze, and pick yourself and your friend to pieces.

She has a sweet disposition—sweeter than yours, you may be obliged to admit. She is intelligent, cultured, original may be, cleanly in her habits, and altogether an attractive person. You admit her superiority, and stand appalled at your own feelings. She is welcome in your parlor, but the privacy she covets with you, you abhor.

Probably the most tantalizing feature in such cases is your own inability to pick flaws in the individual. Her affection for you increases, but in proportion as she steps forward in this respect, do you retreat. Her kiss on your cheek burns all day, and her arm about your waist makes you wish you had never been born. You call yourself hard names, and believe in total depravity. Just as likely as not she overloads you with favors which you are restrained from refusing on account of her sensitiveness. She is all kindness and goodness; and how can you wound her? To stand up in cold blood, and tell her the true state of the case, would be a harder task than to rob a hen-roost, or pick a man's pocket; and then there are certain things about her you enjoy. Once in a while, with the width of a room between you, you are comfortable and happy. In

close proximity, and after an interview of an hour or two, you find yourself weak and exhausted, and as likely as not ready to cry.

Now, must this not be a purely physical and magnetic repugnance, over which mind has no control? Does it not come under the head of elective affinities, and is there not an honest and straightforward way of managing these inharmonious relations? But, on the other hand, is there a woman large enough, enlightened enough to bear such a statement of facts in the true spirit? It isn't of the slightest use to enumerate the angelic qualities of your friend. You are aware of them all; and while you may feel yourself a miserable sinner by contrast, it doesn't help you to bear her any nearer. You realize that all the will in the world can not dominate this strange, elusive something—this something which perpetually dodges you, but which holds you in a grip of death. It is like spun steel, and stronger than your virtue.

A little incident which happened to the writer, will, perhaps, illustrate the apparent unreasonableness of these influences. An accident on a pleasure trip, threw our party upon the hospitality of some strangers also traveling. One of these, a lady, was very helpful in assisting me to a change of garments, and in the most unobtrusive manner possible, strove to be of service. I was considerably shaken by the accident; but something in her sweet voice and manner soothed me in spite of myself. I went to sleep with my hand in hers, and awoke in the same position, wonderfully refreshed, and ready to resume travel. Our little sojourn together could not have lasted more than four hours, and yet to me—and I believe to her—it gave a pleasure, the remembrance of which will last to all eternity. After good-byes, and mutual good wishes had been exchanged, and we had started on our journey, then it was I found out that this woman to whom I was so attracted, and who had been mutually attracted to me, was a notorious member of the New York *demi monde*. This incident proves one of two things: my own inherent depravity, or the total absence of mind or judgment in such choice. In other words, these predilections are likely to be the results of nerve selection or affinity. You know that you admire virtue, and strength, and heroism, and strive to possess them; but you also know, mayhap to your eternal disgust, that the sinner is more agreeable than the saint, the coward than the hero. Now how are we to manage these things? Shall we endure our friend's intimacy, because of their desire for these relations, and make ourselves ill and miserable by such self-abnegation, or shall we sacrifice our friend to what the friend will doubtless consider a whim; or do worse than this, perhaps, deliberately resolve to wound her? In this question are involved subjects of the deepest importance, not only to the individual, but to society in general. The great trouble is the universal ignorance in regard to these hidden magnetic laws. What if the University professor or the Public School principal and teacher had some practical knowledge of these things, what a difference there would be in the seating and classifying of scholars. Now, if Susie Brown don't want to sit by Nellie Jones, and protests in the matter, perhaps to the extent of a crying spell, this is proof positive to the teacher that Susie Brown ought to be made to keep that seat. That inner occult something which rasps the child's sensitive nerves to the muddling of her brain, and the breaking down of her health, are too whimsical and ridiculous to be considered. What if the physician understood enough of these overpowering conditions to turn his eyes away from the bed and the patient to the social surroundings of the invalid? Oftentimes it is not the friend out of the house who ought to be excluded, but the friend under the same roof, or the nurse at the very bedside These are often the greatest hinderances to recovery, and skillful and well-meaning physicians are constantly being baffled by just such undermining influences. Having been the recipient of many a sick-bed confidence, I know whereof I speak. Let us have more light thrown on these subjects, and let us not be afraid to use it.

ELEANOR KIRK.

LIGHT IN DARK PLACES.

"This mournful truth is everywhere confessed,
Slow rises worth by poverty depressed."—SAMUEL JOHNSON.

CHAPTER VIII.

FURTHER GLIMPSES OF CAMP LIFE.

THEY had not sat down to breakfast yet the next morning, and Sadie was watching the baking of some oatmeal crisps when a rap was heard at their door. Norton opened it, and found Mrs. Moriarty.

"Kin I see the missus?"

"I guess so."

And Norton went to the door of their other room and informed his mother, who soon after repaired to the caller.

"Good-morning, Mrs. Moriarty."

"Och, and its good mornin', indade, to ye, me leddy. It's not inthrudin', I am?"

A kind shake of the head, on the part of Mrs. Camp, and she went in.

"Shure, an' I'm thinkin' I'll jist take Mickey and go on wan of thim ixcurshuns they give to the poor childer."

"It would do him good, Mrs. Moriarty, to have a breath of sea air and a run on the beach with the other children."

"Yis, that's wot I was thinkin', but I thought I'd cum down and ax ye about it afore I'd made up me moind intirely to go. The Dutch woman jist ajinin' me, is goin' wid her *kinter*, as she's afther callin' the two little griggs, so I'll be havin' company. An' I'd be takin' the little darlint over there by the windy (pointing to Dell), if ye'd thrust her."

"Thank you very much for your kind thoughtfulness, Mrs. Moriarty, but Dell goes out almost every day, with either me or Norton. To-day, as it will probably be very pleasant, she will go with me over the river to Brooklyn. I have some work nearly finished which I am to take there."

"Musha, and that smells good. What is it ye're bakin' there, young miss?"

"Only oatmeal," replied Sadie.

"Oatmeal! shure, and that's a purty dish. Faix, oatmeal was what we lived on, wid pertaties, most of the time in the ould country, an' I bile up a bit now and thin for me ould mon and Mickey. But what kind of a cake is that? Shure, I niver see anythin' loike it afore!"

Mrs. Camp broke off a liberal piece of a brown, crisp cake which lay smoking on the table, and handing it to the woman, said:

"This is what we are very fond of. Take a piece and try it."

"Whist now, I know it's good; iverything yer hands do is jist the bist, Mrs. Camp; and ye take so little throuble to do it too."

"The simplest methods produce the best results, Mrs. Moriarty. People spoil a vast amount of good food material by trying difficult and roundabout ways in preparing it for the table. They somehow can not understand that very little manipulation or change is necessary to render palatable what is fit to be put into the stomach. Indeed, many people actually spoil nearly everything they touch by the way they mix and turn, salt, dress, and cook, and they scarcely know the natural taste of the meats and vegetables they have upon their tables day after day."

"Faix, an' ye'er right, missus. There's me sisther, Rosy-Ann, who's lived out more'n fiftane years in Ameriky come nixt October, an' she sez that divil a wan of all the families she's cooked for cook loike any other. Botheration to't, she has to learn a new way ivery toime she changes places, an' that, lucky for her, hasn't been often of late. But she's been that mad sometimes with the toastin', and roastin', and stewin', and mixin' that's put on her, an' she knowin' that 'twas bint they were on sp'ilin' the good things they had to cook, that she's given the misthress warnin', and lift the nixt day. Shure, an' wasn't Rosy-Ann in a hotil wanst, an' didn't she learn there from the chafe-cook, a rale Frinchman from France, how to make the most beauchiful soup and stew, and with nixt to nothin' for matarial? But I'm kapin' yees from yer breakfast, and me

ould man and the b'yes are starvin' for theirs. Good-mornin', ma'am, and the darlints."

Mrs. Moriarty then bowed herself out, and mother and children sat down to a breakfast which an epicure used to the dining-hall of the "Brunswick" would have pronounced "thin," but which to the simple, unperverted palates of the Camps, appeared delicious. There was the crisp oatmeal cake warm and brown from the oven, with its accompaniment of fruit sauce, this time Turkish prunes, simply stewed; there was a poached egg for each, whose plump, golden center in a circle of white, gave it the appearance of an exaggerated field daisy; and there was a plate of wheat biscuits, round, brown, and so sweetly aromatic, by reason of their freedom from all chemical ferments. Butter was a luxury that Mrs. Camp's narrow purse could not afford, but they felt no need of it, for a little milk which Norton bought at the "creamery," or the fruit, made a toothsome dressing, more than filling the place of the oily extract.

"Um, ain't this good, Nortie?" said little Dell, smacking her lips with enthusiasm over a second piece of the thin meal cake which mamma had just spread thickly with the fruit juice.

"I rather guess tis, I could just live on this every time."

"I think you'd get tired of it after a while, and want something different for a change," suggested Sadie.

"Oh, you just try this 'individible,' as Bumpy says. The other day when a muffin-man come along the street, Bumpy looked into his basket and said: 'My eyes, Mister, if this individible had five cents, he'd buy out yer stock.' I up and told him, Sadie, that if he once had a taste of your breakfast-cake, he'd want no more of them greasy, floury things."

Breakfast over, all joined in clearing the little table, and even little Dell, who was but seven, had her share in the work, going briskly about with dustpan and brush to gather up the crumbs. The breakfast dishes washed, and dried, and put away, Sadie sat down for the half hour she had before leaving for the bindery, to read an instructive book which she had procured from the Mission Library. It was a collection of biographical sketches of eminent men and women. She had a habit when reading, if her mother were at hand, of reciting aloud passages which impressed her as particularly interesting. This Mrs. Camp encouraged by giving her attention, and commenting upon the subject of a passage, and of course



Mrs. Moriarty's Morning Call.

such a practice served to strengthen the maiden's memory and reasoning capacity, and to refresh the mind of her mother. In this pleasant employment, her half hour soon slipped by, and Sadie, glancing at the little clock, closed the book with a sigh:

"Oh, mother, if I could only read as much as I would like to, and not have to go to that Blossom & Gaff's!"

"My child, I know it is hard to turn from what is proper and highly desirable, to that which is compulsory and severe. In the springtime of life, to submit to repression, to see what we deem opportunities for personal culture and improvement pass without our being able to use them, is dispiriting. Yet there is some consolation in knowing that our condition might be much worse. And we can also glean a lesson in patience from the experience of the many who have become great and earned honor in spite of adversity in their youth. You know the early history of the late President Lincoln, the few books he had to read in his boyhood, and how he kept a scrap-book to preserve what he thought worthy. A plodding blacksmith, who is yet living, became, by study in the short intervals of rest from his forge, the great linguist of his time."

"I've read of him, mother; you mean Elihu Burritt."

"Yes, and lately the magazines and newspapers have had much to say of an extensively learned Scottish naturalist by the name of Edwards, who was a shoemaker, and so poor that he could at first only pursue his studies late at night. Little by little, my daughter, we can build up a large edifice of knowledge, if we are diligent and regular in using our spare time. Half an hour a day is more than many have had to themselves when young like you, and yet their learning in the course of a year became really vast, and made them famous."

"I think I do pick up a good deal, mother, as I go along. When anybody alludes to anything which I have read about, it seems to come fresh into my memory. Perhaps I remember all the better for reading so little."

"Yes, you thus have time to think about what you have perused, and to digest it well. People who read a great deal, do not give their minds the opportunity to analyze and reflect, consequently their much reading does them harm by clogging the action of the mind, and really weakening it. A few worthy books well read and remembered are more profitable than a whole library skimmed over."

Sadie was now ready for the street, and with warm kisses for mother and little sister, tripped away in a happy humor, the little talk just had giving her new strength to meet the difficulties of her present, and fresh hope for a better condition in the near future.

CHAPTER IX.

MR. STANLEY SHOWS A DEEPER INTEREST.

WE left Mr. Stanley on his way home after his timely intervention in behalf of Betty and Sadie. He was an active member of an up-town church, and having been given the charge of certain charitable work among the poor, had made the upper part of Cherry, Henry, and neighboring streets his field, and while thus engaged, he had become acquainted with the young men whose improper fun he had interrupted; and had exerted no little influence toward reforming them from the habit of tippling, into which, like most young men of their class, they had fallen. The object, it was plain, had not yet been accomplished, but there were indications of progress which were encouraging.

No one who is engaged in Christian labors among the degraded, if he or she be wise, expects immediate and satisfactory results. Much time must be spent, the same admonition repeated many times, and the same kindness performed before any loosening of the old bonds may be perceived. The poor victim of corrupting associations and practices must be first raised to a mental height whence he can view himself, and realize his condition and his need of reform and improvement. Unless this be done, there will be no substantial amendment in his life. Mr. Stanley was an ear-

nest and intelligent missionary, and had accomplished much, because he understood the character of the poor people whom he sought to help, and offered them encouragement and sympathy in their weaknesses and errors instead of reproach and criticism; thus arousing sentiments of industry and self-maintenance in those who were disposed to depend upon others for daily food.

Dashiel Stanley was a bachelor, upward of forty-five years old, and living with a married sister. Why he had not married may appear in the course of our narrative, but generally, in answer to questions on the subject, he replied that he found so much to do in other people's families, that he had no time to have one of his own. Two days after his meeting with Sadie, he was standing in his salesroom when Norton entered.

"Good-morning, my young paper merchant, how is business with you?"

"Good-morning, Mr. Stanley," replied Norton, a little confused by this style of address, commonplace enough among business men.

"I mean," replied the gentleman, "do you find ready sale for your waste?"

"Oh, yes, sir, but the boys say that the price is 'flat,' so I suppose that I don't get as much for it as I might, could the dealers sell it quicker."

"Yes, the paper trade is pretty dull. But how are the people at home? Your good mother, is she well?"

"Yes, sir, thank you, and mother says she is very much obliged for your kind help when our Sadie was set upon the other night."

"Oh, that's not worth mentioning; any man would take the part of a lady when attacked by rowdies. Those fellows intended only a little sport. So they said, but being drunk, their sport might have proved dangerous. When a man is under the influence of liquor, he is easily led into misconduct, from good humor he easily passes to anger, and that with but little pretext, and then is likely to commit some serious act of violence. The drunkard is a very unsafe person. I hope that you will never get into habits of drinking liquor."

"Oh, I never shall," exclaimed Norton. "I see enough drunken men, and women too, every day, to make me afraid of liquor."

"A very wholesome fear, my boy, which should cling to you through life, and if you come out a man like your father—"

"Did you know my father, Mr. Stanley?" cried Norton, impetuously.

"Yes, I knew him well."

"How glad I am," exclaimed the excited boy, seizing the gentleman's hand, who sympathized heartily with his eagerness, "to know some one, a nice, good man, who used to see and talk with my dear father. I was a little boy when he went away from us to the war. We had a real nice home then, sir, in Lowell, Massachusetts. Mother has told us so often about it—and he never came back."

"Yes, my poor boy, he was shot in the battle of Gettysburg. We were in the same company, and ate at the same mess. He was a lieutenant then, and I was orderly sergeant."

"Wouldn't mother like to talk with you about him though! I wish, sir, you would see her sometime, if you don't mind the place where we live."

"I shall be glad to call. When is it convenient for her to receive visitors?"

"I think about seven o'clock or after. Mother's pretty busy all day, but if you'll please say when you would come, I'm sure she'd be ready to see you. Perhaps you may know, sir, that father enlisted at the very beginning of the war, and only came home once for a little while before he was killed, and I just remember how they brought him home in his pretty uniform, and he was buried just the same, with the bright sword in the coffin."

"If I remember rightly," said Mr. Stanley, "your mother came down immediately after the battle, and took charge of the lieutenant's body."

"Yes, she did; and she says the soldiers were very kind to her, although there were so many killed and wounded to be looked after."

"Well, my boy, I shall certainly go to your place within a few days. Let me see, I have the number here, — Prince St., third story, back rooms. And now you can help

yourself to your paper stuff, while I attend to that customer who has just entered. Good-morning."

"Good-morning, and thank you, sir," said Norton, who at once proceeded to collect the odds and ends awaiting him. The conversation just had with Mr. Stanley filled his little head and heart, and he worked with great dispatch, being anxious to finish his morning's round as quickly as possible, and get home to tell his mother all that had been said.

Mrs. Camp's hour for dinner was quarter-past twelve, to suit Sadie's convenience, who came home at noon on fine days. Mrs. Camp deemed the out-of-door exercise she thus obtained, to be beneficial, to say nothing of the change afforded Sadie's mental life by the ten-minute walk from the shop



LITTLE DELL.

to their rooms. Generally, working-girls live so far from their place of employment, that the short hour at noon is insufficient to permit them to go home for dinner; they therefore prepare a meal which they carry to the shop, wrapped in paper or napkin, according to their several notions of neatness. During the noon-spell, while discussing this cold cheer, they are disposed in groups, for the most part talking frivolously, or commenting on their work and prospects in a way which is equally useless. Sadie did not incline to the idle gossip of her work-fellows, so preferred to run home, and the distance being short, she could eat her portion of the meal, and give a few minutes to her book, if the talk of the family did not consume the time she had to spare.

Norton reached home that day before the bells struck twelve. Mrs. Camp was making the table ready.

"Mother," cried the boy, "do you know that Mr. Stanley knew father well? was in the same company with him, and remembers about your coming to the camp after he was shot."

Five years had elapsed since that dreadful blow to her devoted woman's heart, but any allusion to it was sufficient to awaken the feeling of anguish which remained deep in her bosom. Starting at Norton's unexpected announcement, her face paled, but quickly recovering herself, she replied calmly:

"Mr. Stanley has been talking with you to-day about dear Lawrence, then, my son?"

"Yes, mother, and he said that he would come to see you soon, if you had no objection. Didn't you ever know Mr. Stanley, mother?"

"Not personally, but since you have mentioned that he was in the same company with your dear, buried father, I remember that in some of his letters, Lawrence alludes to a Mr. Stanley as being one of his camp associates. I should be glad to meet Mr. Stanley for your sake, Nortie, as well as for the sake of the dear one who died contending for his country in the same ranks."

Mrs. Camp's voice trembled, and Norton knowing the subject to be a painful one, turned to Dell and began an account of his street doings that morning.

CHAPTER X.

NORTON IN TROUBLE.

THE weather had become quite warm with the advancing season, and Mrs. Camp, to promote the movement of the air through her apartments, usually kept the outer door ajar during the early hours of the day. This morning, little Dell was swinging on the door-knob, now and then peering into the hall-way with a child's curiosity, especially if any sound of footsteps or other movement were heard. Mrs. Camp was busy with her sewing, so busy that Dell knew by her expression, that mamma must not be disturbed now by noisy play or prattle, and the lit-

tle girl, as she peered into the long, dim passage and down the long, steep stairway, thought longingly of the green and shady walks of the parks she had been taken to run in occasionally, and of the pretty green country, with singing birds, and cows, and lambs, of which nice stories had been read to her by Nortie from the books he obtained at the Mission Sunday-school. Poor little one, the thought of all that life and beauty out-of-doors somewhere, made her half sad at first, but the next minute quickened the impulse of her heart with a cheery, joyous sentiment, and she talked half aloud to herself thus:

"When I get a big girl, I know what I'll do. I'll go 'way, 'way off out of this great big place, where all the houses are so big and dark, and so close up together. I'll go, yes, I will, 'way off 'mong the trees and flowers, and live in a house with, oh, such a nice pretty garden. And I'll have kitties, and chickies, and birdies, and ever so many lambies. And I'll have a nice, good horssie, and drive him all my own self, and I'll come and take mamma and sister, and give them such a nice ride. Oh, won't that be nice!"

And the little girl in the ecstasy of her delightful picture of the future, fairly shouted and clapped her hands.

"Gently, my darling, gently," admonished Mrs. Camp.

"Oh, I forgot; I was thinking, mamma."

"Of what was my precious thinking?"

"I was thinking about such nice things—of being 'way off somewhere in the country, and having chickies, kitties, and I don't know how many other nice things, and—why, there comes Bumpy!"

While Dell had been talking, she was still in the door-way, and in the midst of telling her happy thoughts, Bumpy indeed came in view, while ascending the stairs two steps at a time.

"Say, young 'un, is the missus 'round here?" asked the young representative of Sullivan Street, half out of breath.

"If you mean mother, yes."

"Then I wants ter see her dereckly."

And Bumpy pushed on into the room where Mrs. Camp sat. His errand was an important one, she immediately perceived, and said by way of salutation:

"Well, my young friend, what have you to tell me?"

Bumpy coughed once or twice, shifted from one foot to the other, took off his cap, and twirled it two or three times, and then as if he had brought his resources of language into play, said:

"I've kum, missus, to tell yer as how Woolley, him as is yer boy, an' me, and sum other fellers was a standin' down in Broome Street, 'fore a shop where they sells soger water, peanuts, oranges, bernanners an' such, an' one of the fellers said he'd jest like ter have some of them oranges, and meant to have one too, and axed me ter go up ter the stan' an' take two or three. I said I wouldn't do it. Then he jest said to Woolly, who was a standin' by me, 'Yer'd better get them oranges, or I'll spile that fine sugar face of yourn.' Woolly then started to walk off, when the other feller, a big un, twice my size, jest took ahold of him an' throw'd him ag'in the stan', knockin' down the hull concern, an' then the fellers jumped in and grabbed wat they could, an' put roun' the corner. Woolly was so mad that he jest jumped up and went into the big un that'd pushed 'm down—'cross-eye Tim 'they calls him—and I swow, missus, he'd jest licked him ter pieces ef the man wat keeps the place hadn't run out an' took 'em both by the collar, and held 'em till a cop kum over and 'rested 'em. Woolly tole the man all 'bout it, but no use. He said he'd let 'em know their biznes, comin' 'round his store and knockin' down his stan' jest ter raise a row and steal his things."

Mrs. Camp, with ready intuition, had foreseen almost on the first appearance of Bumpy, that he was the bearer of disagreeable intelligence, and had braced herself for something even worse than what he had to tell. Naturally sensitive, her feelings were easily aroused to pleasure or pain, and she was also constitutionally averse to scenes and experiences which brought into relief the coarse and vicious qualities of human nature. Necessity, since the death of her husband, had forced her into contact with so many different people, and had compelled

her to receive so much rudeness and even cruelty from persons who employed her, that the lower or physical qualities of her organization had been brought into activity, and gave to her sensitiveness an offset of strength which sometimes surprised her. In this trouble she felt embarrassed, not only because of her maternal solicitude for the boy, but also because she had then in hand certain work which was to be completed and delivered the next evening, and to accomplish the task would require all her time until then. She had procured this work at a new place, and was anxious to be punctual in its delivery, because she would thus probably procure more, and perhaps establish a connection which would last during the summer. This would prove indeed fortunate, as the prospect for workpeople was more lowering than ever, so many shops were suspending operations as the season advanced.

After questioning Bumpy closely, to satisfy herself that Norton had acted only from the impulse given by a sense of wounded pride and honesty in attacking the other boy, and to ascertain the location of the station-house to which Norton had been taken, and the name of the storekeeper who had caused his arrest, she asked him to go the Mission and ask for Mr. Hammond, the Secretary of the Society; and if he were there, to request him to wait until she called.

Bumpy ran to the Mission office, and finding the Secretary, delivered Mrs. Camp's message in his original fashion, and then hurried back to announce that Mr. Hammond would see "the missus right off."

"Now, my good boy," said the lady to Bumpy, "are you busy to-day?"

"Nothin' 'tickler t'do, mum."

"Will you go with me, then?"

"Yes, mum, I jest will. Didn't I jest kum to guv yer all the help I kin to git Woolly out of the jug down there?"

Having placed Dell in the care of Mrs. Moriarty, the lady and her young assistant walked to the Mission.

Mrs. Camp had called on Mr. Hammond not very long before in behalf of a poor woman who had a room in the same house, and who had become, through sickness, entirely destitute. So he recognized her, and courteously invited her to take a chair.

"I beg that you will excuse this intrusion, sir, but I have need of assistance, and your kindness and that of your Society to my children, have induced me to apply to you."

"Whatever we can do for you, madam, will be done cheerfully, I assure you," said Mr. Hammond.

"My son Norton has very unexpectedly fallen into difficulty. He is a member of one of the Mission classes, as you may know, sir, and I think that it is not from any perversion or forgetfulness of the teachings received here or from me that he is now under arrest."

Then the lady related the circumstances of the affair briefly and clearly, adding a few words in explanation of her own circumstances, which might become seriously embarrassed if she were compelled to leave her work for a few hours.

"I understand your situation perfectly, madam," said the kind but important Mr. Hammond, "and know the nature of the engagement to your present and future need. Employers at this time are most exacting; in their respective spheres they also feel the pinch of necessity, and on that account, demand the most thorough performance of the services offered them, and many accustomed to dealings with the poor accept no excuses for work undone at the appointed time. So many hands are ready to take work at prices little above starvation, that they can make their own bargains, and you must submit. I'll attend to this matter myself. It won't do for you, madam, to go down to the police station, not just yet, at any rate. I'll inquire into the affair, and see the police judge and the owner of the fruit stand, and perhaps we'll get the boy out pretty speedily."

"Oh, I thank you, sir, most heartily for this great kindness. If you see my son, tell him to be brave and truthful for his mother's sake, and if he will not be permitted to come to me, I shall be there to see him soon," said Mrs. Camp, earnestly.

"Yes, my good woman, now go back to your work and that little girl, and this young

chevalier of the *sans culottes* and I will do the needful. Young sir," said he to Bumpy, with a gravity which brought a half smile to the lip of Mrs. Camp, "I think you and I will make too strong a team for them down there."

"That p'leece judge's a buster on the boys wots tuk in by the cops," said Bumpy. "But I'm in for it with yer honor."

"All right, then, we'll go down in a moment. By the way, Mrs. Camp, I'm so often called upon in cases more or less like this, that I'm a little worn out as a bail man, that is, for serving as security. You understand. Do you think of any one who would be likely to take enough interest in your son to become his bail, should it be needed?"

Here our excellent Mission secretary showed one of his weaknesses or prudences, as the reader may consider it. He disliked to have his name appear on a bail bond or any other form of security for another. He would give liberally of his time in behalf of a charitable object or in a friendly service, but when asked to bind himself in a legal or documentary way, he either declined at once, or evaded it. In reply to his question, the anxious mother said:

"I do not know any one upon whom I could rely in such an event. Perhaps, sir, Mr. Stanley—do you know Mr. Stanley—of Taylor & Stanley? he might."

"Mr. Stanley I know very well, as he sometimes comes here to talk to our boys and girls."

"Norton is well acquainted with him, sir, and I think that he has a good opinion of my poor boy."

"Well, I guess Stanley would fill the bill, if need be. We'll go now, young sir."

Mrs. Camp pressed the gentleman's hand, and having requested the boy to come and tell her the result of the interview with the magistrate, returned to her apartments and resumed her intermitted work. Casting her eye toward the clock on St. John's, she saw that three-quarters of an hour had been consumed in this unexpected trouble of Norton's.

(*To be continued*).

WIVES AND SHOP-WOMEN.

WE hear much of the benefits resulting from the change in female employments; that women were once confined from ten to eleven hours a day in an unhealthy sitting posture, in order that they might earn half as much as they now can by standing behind counters, and enjoying the beneficial exercise connected with shop work.

Well, it's a comfort that the poor sisterhood have, in any measure, emancipated themselves from the destructive tendency of sedentary pursuits; but, at the same time, a very serious question arises, and one fraught with tremendous consequences to young bachelors especially. Where are the wives to come from? Good wives, you know, are always represented as a quiet, home-loving, darn-stocking-mend-old-coats sort of machines.

Now, do you suppose Miss Seraphina, who looks *so* sweet and tasteful behind that counter, doing up with her parcels so much small talk, and throwing into the bargain such bright smiles, is going to give up willingly this enviable public position, hide all her charms in a kitchen, with no one but husband to admire? By no means. If she marries, which of course she will, and commences housekeeping, there are nine chances out of ten, that in six months or less, she will get tired and blue, and begin with insinuating smiles, to talk to Robert about boarding. She will say, "You know if we board I can go back into the store and earn my own clothes at least"—not a small item either, dear Seraphina. Of course Robert stoutly protests for awhile, all the time secretly admitting that it would be cheaper, and at last says out, "Hang these housekeeping cares."

The result is, housekeeping is thrown up, the furniture sold at a sacrifice or stored, and pretty Seraphina rejoices in her becoming new bridal finery and ornaments, behind Mr. Buyandsell's counter; and Robert, instead of coming home to his wife of an evening, drops into the club-room or hotel,

to wait until Seraphina is ready to go home, for business is lively, and late hours rule, particularly Saturday evenings, when girls are tired out with their week's work.

After smoking one or two choice segars, and, perhaps, washing them down with strengthened water (I'm afraid I mistake, I guess the strengthened water comes first), he takes Seraphina to their boarding-house with a kind of dreary feeling that this is not just what he married for.

Sometimes it happens that Robert don't get around in time, and Mr. B—— or one of the gentlemen clerks escorts his wife home, and then Robert looks *glum*, and wishes he had not been in such haste to marry, and Seraphina cries and thinks he has ceased to love her, when poor, simple creatures they are only suffering the consequences of a false position. I say false, because although I believe women fully capable of filling, with entire acceptance, public positions, I as fully believe that the generality of them would be far happier as wives with a home of their own.

Undoubtedly a few young women seek these public situations from vanity and a love of excitement, but by far the larger part of them are forced to accept them from actual necessity, or because they are better paid than in other occupations. Forced thus into the exciting scenes of crowded stores or saloons, they insensibly imbibe a taste for this excitement until it seems to become necessary to their happiness; and I think this to be deplored, as it disqualifies them for the discharge of quiet, domestic duties—duties which in fact go so much toward promoting the welfare of society.

But tending store, or smiling behind a soda fountain, is all well enough, provided the poor girls are not expected at marriage to change at once from pretty poll-parrots to humdrum chimney swallows. Miserable females, what can they do? One day they listen to urgent appeals from consistent philanthropists, to leave their death-dealing sedentary employments and, perhaps, hear the next week, from the same lips, lamentable groanings about the degeneracy of the times, the lack of good stay-at-home wives, the extravagance of female dress, etc. Is this just, is it right? Can one go upon hot coals and not be burned? And can a young girl be placed just where dress and fashion surround her, where she is expected to take the lead in it, and not imbibe a destructive love of it? I tell you nay.

If men *will* select wives who have been for years surrounded by excitement and vanity, ought they to expect them, *at once*, to make frugal, notable housekeepers? Ought they to complain if the young wife has neither taste nor ability to discharge domestic duties? To all such grumbling husbands, I say *wait*, have patience. Do not conclude too suddenly that your marriage is a failure. If your wife loves you, she will, in time, conform to her lot; and, perhaps, make as good a housekeeper as she did a fascinating saleswoman. And to all young women employed as clerks I would say, when solicited to marry, weigh well your chances for happiness in the change from silks and laces to the broom and wash-tub, cook-stove, etc.; think of the white hand turning red and rough, and nobody but husband to dress for, and likely enough he never noticing it after all. And if you are sensible enough to believe that the love of an honest heart and a quiet home where you can welcome a friend now and then, are ample compensation for fine clothes, exciting scenes, or the admiration of a crowd, why, say yes to John when he asks *the* question. But of all things, if you do marry and settle to housekeeping—which pray heaven you will do, for boarding-houses are death to the real happiness of the married—*keep* to it. Bear patiently with the fire that won't burn, the half-done loaf, the muddy coffee, if you *will* drink it; the clothes-line that will break down just as you had all those clean clothes on it.

You will one day smile over all these little sorrows under the pressure of real ones, and wonder as you preside at your attractive board and hear the praises of husband and guest over your excellent dishes, if you ever did have such food on your table once. Patience, discouraged young couples through the first years, says

COUSIN CONSTANCE.

INDOLENCE IN LITERATURE.

PART I.

"He spake of beauty: that the dull
Saw no divinity in grass,
Life in dead stones, or spirit in air;
Then looking as 'twere in a glass,
He smoothed his chin and sleeked his hair,
And said *the earth was beautiful.*"

THIS character of self-complacency which Tennyson draws so adroitly reminds the writer how presumptuous an act it may be for one who does not present claim to a knowledge of the first principles of correct language, to assume the task of pointing out errors, or of furnishing guides for others who are pursuing a literary career in the face of difficulties. However, none better know what is wanting than those who feel need. But how to bend one's self so as to acquire and use the peculiar requisites, seems to be the unavoidable endeavor at which the majorities fail, and it is simply because they expect to make "the mountain come to Mahomet."

Writers do not often err by grasping more than they can handle, but they certainly do not handle skillfully that which they undertake so promisingly well. They find the real labor to be very unlike their ideal opinion of it. They manifest too strong an inclination to make an elegant pastime of that which they have determined must first be a profitable literary effort. The early idea of the aspirant to authorship is a rose-colored conceit that a literary *sanctum* is something between a lady's boudoir filled with exquisite art, rare curiosities scattered here and there with charming negligence, with an ambrosial atmosphere floating in the midst, and some grand Atheneum where the muses nine, and the *literati* many, ecstatically offer their combinate oblations to the shrine of Wisdom; a continuous revelry, they fancy, in bewitching enchantments and grand inspirations. Never arose a more extravagant phantasy—never disenchantment followed more surely than in the wake of this wild dream.

Were as great pains taken to obtain the practical facts regarding those who have climbed the intellectual mountains—reaching the highest heights of celebrity—as are nurtured to idealize, or rather artificialize their ascent, it would prove a wholesome lesson to the student; for it would be demonstrated that, without an exception, the world's towering men have dignified their conquests by the severest labor, the closest economy of time, and the most meager expenditure of personal recreative pleasure. Instead of praying for the clouds to disperse, and then waiting for the answer to their petition, they have lighted their candles and studied in semi-darkness. They found no excuses for delay, but were shrewdly aware that eternal perseverance would be the unavoidable cost of their conquests, while exactness could be purchased with nothing less than the most rigid discipline.

Greatness is not thrust upon any non-conductor; the idea that it is, is simply poetic, and not at all philosophic. The great bane of pure, energetic literature is largely attributable to slothful inactivity and irresponsible indecision. In the midst of the present intellectual increase, with its growing agitation of culture, there is a large percentage of listlessness; not positive inaction, but negative exertion. This would seem incredible to any person searching in a literary emporium for a treatise upon some subject to which he is giving immediate attention; for, no matter what the subject, when he looks for a half-dozen authors, he is much surprised to find nearer a half-hundred lights of different magnitude to illuminate his present study; and each volume, at first overlooking, seems to be laboriously exhaustive. Minutiæ have the appearance of being here extensively elaborated, and wide generalities there condensed. "What wonderful research; what insight; what indomitable perseverance in explorative qualities; what expression!" ejaculates the average reader, as he rapidly skims over the contents. He swallows words as he does his meat—without mastication, inviting indigestion, lunacy, and the doctors. The genius of an author is amazing to the illit-

erate, and they are disposed to look outside of the natural sphere of human qualifications for its origin. Indeed, is it not a common frailty with all to look upon that which we do not at all understand as something foreign to the ordained paths of life—something introduced for a special time and people?

Let us consider how wide apart are the criticisms of the novice and the so-called "expert," and we can draw our inferences therefrom of the medium or average mind. The opinions of the literary novice are sure to be enthusiastic, or he is no true servant to his cause. His is the exuberance of youth, although he may not be young in years. He indulges in overweening hope, and overflows with the effervescence of untamed imagination. He has the rushing, dancing, bubbling eagerness of gas when a lighted match is applied to the burner. He is impatient to "come out." His plethora of ideas need relief, and will abide no further restraint. Let him take up a book to read. "There is everything in a title," say some, and writers will spend weeks to make the "happy hit." If the title particularly impresses our inexpert critic—if it stands out from among other titles in bold relief, as a scarlet geranium blossom distinctly arises from the surrounding green—he is captivated by its elegance. Now if, happily, the general tone of the book is pure, yet confident—if mellifluous words flow unrestrained with quicksilver rapidity and ease—he fancies that equilibrium sits gracefully poised, angel-like, over the brain of the author. If, on the contrary, there are strong words, unmusically strung, and he can not connect the long sentences so as to get the thread of the writer's thoughts, he takes it for granted that the subject-matter is profound, and far-reaching beyond his present mental caliber, and he resolves to lay it up as a work of high art which he shall learn, as he progresses, to appreciate. He detects no flaws, because he looks for none. He suspects no irregularities or inconsistencies, because he is eager to get at wholeness, originality, and unconditional truth. Character, to him, is either white or black, and the most pretentious wins his admiration. Principles and purposes are all right or all wrong. He sees distinctly the scarlet of the blossom and the green of the grass, carries them in his eye, and declares these are the only two colors that were presented. He does not seem to be conscious of the drapery of gray air, of the golden sunlight flecking the dew with opals, of the earth colors; and that repose, contour, and symmetry lie within the boundary of his mental picture, bringing to lively prominence the contrasting hues of the scarlet and the green, and enhancing their brilliancy and beauty. He is ready for perfection in one mind, and is ready to applaud something that is just glowing under favorable recognition by superior people. Not allowing himself to be one whit behind these "extraordinaries" in enthusiasm, he launches his opinions as if they were *Great Easterns*. So much for the novice, with whom, let it be remembered and acknowledged, every *litterateur* has been peculiarly acquainted, and to whom he or she has been more or less warmly attached in some of the experiences of the past. Why blush? There are greater follies than these.

The expert is the adverse of the novitiate. He has no cause at heart, for he likes not half so well to uphold or upbuild as he does to pull down, and roll, and trample, and degrade in the common dust. He has

"A mind well skilled to find or *forge* a fault;

and he is viciously happy in being "hated, yet caressed" by those who fear his cutting satire, his insolent ridicule, and his cold, measured scorn.

Having briefly sketched the inflammatory susceptibilities which adhere to the extreme ends of the critic's bench, thus demonstrating the unreliability of the unreasoned judgments of both novice and "expert," we will turn back to give a few reasons for charging average mental "geniuses" with slothfulness. The reader must remember that in this paper we are confining ourselves to the faults of literature and its manufacturers, and they can not be discussed as pleasantly as the fairer and more successful phases. In the first place, then, the profusion of literature—and it is immensely profuse—is commonplace, tame, and weari-

some; or, avoiding this, it is sensationally loud, and alarmingly excitative in its over-strained representations. It disappoints—where it does not cloy—by abruptly dropping the unwelcome curtain exactly when the reader is prepared for an original elaboration which shall enlighten him. It lures him to the mouth of the cave of the greatest scientific wonder, then assures him there is no way to enter—"No steps, no window or door, no study, no psychological opening to admit him to the 'unknowable!'" Its biographer turns autobiographer, and arranges the light so that it may shine most advantageously upon himself by reflection, little concerned about the exactness of his biographical picture. It invites the reader to some historic treat, and puts upon his credulity the cheapest slander, the most outrageous misrepresentations that partisan trickery and blind radicalism can put in circumlocution; or, on the other hand, robs thousands of their bravery, or magnanimity, or humanity, to dress up one hero, whose conscientious shoulders are so broad that they can carry all the honors that can be surreptitiously loaded thereupon. Its ethics threaten to stir and clarify the stagnating pools of self-love—to disturb the evil-doer—and they straightway lull him into self-complacency with their plausible moralities. Its poetry, profuse in quantity, keeps the listener alert for some new chord of sweetness—for some deep intonation that will vibrate in unison with his most sacred sense of love and life—and he is pained with hollow sounds, and mockery that distorts the real. Artificially it attempts to sing; and whines—to soar; and envelops itself in the blurry shadows of mystification, or entangles itself in the splendor of the stars, and can not get back to earth and reason to complete its attempted mission. The traveler by rail rides but a few hours before he finds two, three, or four novels lying in his lap. From the imposing "muslin-bound," in the newest colors, to the glaring, vulgar paper covers—they are all the "latest," and generally worse than their predecessors. In contents, they are true to the artificial, and false to the real. There is seldom one good thing in them to stick to the intellectual memory. But traveling wayfarers and free public libraries make ready markets for them. People who "have a passion for reading" will read anything for habit's sake.

Some one has remarked that "'Uncle Tom's Cabin' and Harriet Beecher Stowe have made each other monumental;" but the same writer adds this severe criticism, that "Mrs. Stowe's later productions are common tomb-stones." This is putting the case rather stoutly against an individual writer—but are not the public the greatest sufferers by this universal fault of famous authors, who sail so fast that they can carry no cargo? Voluminosity ranks high just now; and it pays—pecuniarily. Now and then some one takes up the pen—there is one volcanic eruption, one mighty disgorgement of the over-burdened accumulation—and the intellectual mountain sleeps again! But these two extremes scarcely enlighten the people as to what is going on under the careful hands of conservative thinkers and writers. These latter are accredited chiefly with slowness and dullness. They do not make "brilliant" discoveries, and then startle the world, just as it is settling down to their adoption, with some new theory that overturns and outrides the old ones. They never arrive at "final conclusions," and consequently have no jubilee. And so the people turn their backs to them. They seek no applause—need none, get none.

Yet fame has its uses. Appreciation is one of the indispensables to public usefulness, and justly so. A full burst of unanimous applause induces the streams of wit and wisdom to flow glibly. A "top round" of popularity stimulates the writer or speaker to graciousness, and makes him "do the agreeable" as if it were wholly innate. Together they strengthen his consciousness of ability, and steady his will to the task which is before him. They uplift him above fear, and he can afford, under public favor, to be both catholic and candid. They clear his vision to high susceptibility, and make him impressively eloquent. They bring him *en rapport* with his audience, and through that truly wonderful agency—the magnetism of sympathy—he anticipates their wishes, their intellectual tastes and capacities, and,

before they are aware they have asked, gives them something for their needs. But the summit of his glory is often reached by the writer to be immediately descended from. The honest praises of the people losing their fresh impetus, shift to adulation, which crazily runs on to the very limits of language. The author's ambition, and perhaps his vanity, is nurtured with this as recompense. Poor food for a sensitive soul to feast upon! It intoxicates while it poisons. He is diverted from the goal of his early purposes. His taste loses its native purity. The world is greedy and clamors for something more and else. Alas! it is here that "poverty, the mother of invention," comes in, and a "French dish," of the odds and ends of little extravagances of the past, is the pitiable result. The demand has become so great that he pays little heed to the quality of the supplies. The keen, straight edge of his Conscientiousness blunts; the fine temper of his thought hardens by the excessive heat of excitement, until it has grown brittle, and it carves the meat of truth with less nice lines than was its wont. The epicure's wine grows sour; his moral bread grows stale; the fruit of his mental labors is not so sweet or fresh as of yore.

ROSINE KNIGHT.

I DON'T KNOW.

SIMPLE enough the words sound, and easy of enunciation, certainly; but their utterance, with a great many people, requires the essence of courage, extracted and boiled down. Especially does the professional character regard their use as obsolete; and it is amusing to notice how many clever phrases he invents to supersede this plain and honest confesssion, "I—don't just remember. Can't say—exactly; 'pears to me I *ought* to know, too; but—well, really, I have forgotten!" when the facts in the case are, he don't know, never did, and the probabilities are that he never will.

Perhaps the cause of so much martyrdom of conscience, especially in the case of those who are brought by force of circumstances into more conspicuous notice in society is the fact that illiterate persons, knowing nothing of the incessant grinding requisite to polish the diamond, expect a few rubbings against seminary walls to bring out the jewel in all its resplendence; and the jewel, desirous, of course, of a rich setting, assumes the position allotted by ignorance, and consents to shine with a false lustre, making it hard for a less pretentious gem to obtain any setting at all.

The school-teacher is regarded by a certain class as a public lamp of information whose rays are to illumine even the most obscure caves and dells of ignorance.

An illustration of this assertion once occurred in the case of a young lady who went into a certain district in the State of Illinois, "to teach the young idea how to shoot."

The good people with whom she sojourned were puzzling over the question of the county-seat of a certain county in the State of Indiana. The question being referred to her, she innocently made answer, "I do not know." "What! you a schoolma'am and don't know *that?*" was the astonished outburst. That lady subsequently advised us never to say, "I don't know," if you want to be popular.

We do not deny that we have sometimes acted on the plan of her advice, but we do not consider it good for the conscience. We can not indorse the sacrifice that lays truth and honesty on the altar of popularity. There are many, many things in regard to which we must be content to remain in life-long ignorance.

The more we learn, and the more extended and widened our views of life become, the more sensible do we grow to the fact that our knowledge is as but a drop drawn from the great ocean of truth, which would scarce make a ripple on its surface.

Then let us be courageous, and not fear to bring the frank avowal of ignorance into our vocabularies.

"I don't know" is a legitimate expression, and is applicable in more cases than any similar combination of words in the English language.

MINNIE MYRTLE, Jr.

Department of Literature, Science, Education.

True philosophy is a revelation of the Divine will manifested in creation; it harmonizes with all truth, and can not with impunity be neglected.

LETTERS TO A SON IN COLLEGE.

No. VIII.

THE SYSTEM OF SPECULATION AND THE SYSTEM OF REASON.

MY DEAR BOY:—I was very much pleased at receiving your letter recounting the difficulties which you experienced in your study of mental philosophy, because it shows that you have taken a very intelligent interest in a most important subject.

You were not unreasonable in expecting from the study of mind results as practically useful as those which you have derived from the study of physiology; only the advantages which may be derived from a correct exposition of the facts and principles of mind, are as much superior to those which you have received from the study of the physical system, as mind is superior to the mere tenement which it inhabits. The study of mind must appear pre-eminently important, if it really has a definite constitution, and is governed by fixed laws, and if, by becoming familiar with that constitution, and yielding obedience to those laws, we may contribute to the development of the noblest characteristics of this most exalted portion of our nature. And not only would a thorough acquaintance with our mental constitution contribute to our advancement as individuals, but in all our civil institutions, in all our systems of education and schemes of benevolence, and social reform, we can have no certain and reliable principles for our guidance but those which may be derived from a correct exposition of the true philosophy of mind.

Governments are established that the interests of the individual may be promoted by the combined efforts of the many in the establishment of legislation for the practical direction of the conduct of the individuals forming the compact; in other words, for restraining and regulating the mental faculties in their efforts at gratification. But laws to regulate the activity of those faculties must be framed in accordance with their nature. And how can they be so framed unless the mental faculties are known and clearly defined, and the constitution which their Creator has imposed upon them be thoroughly understood. The training and education of youth are directed almost exclusively to the mental faculties, and unless these be known, and the laws which govern their activity be understood, our efforts at training them must be empirical and unreliable. Criminals and paupers are such chiefly because of the peculiar constitution of their mental faculties. And in order to be successful in the reformation and elevation of these classes, our efforts must be based upon a correct understanding of the nature, laws, and modes of activity of these mental faculties. Idiocy and insanity also are caused by mental deficiency and disease, and to be successful, any treatment for the amelioration of the condition of these unfortunates must be founded upon a knowledge of the facts and laws of the mental constitution. Morals and religion to produce the most beneficial results must operate in accordance with the constitution of the mental faculties; but so long as there is no unanimity among men in regard to the very fundamental principles of mental science, we must expect to find the world divided, and the efforts of the best men to a great extent nullified by the

most conflicting creeds, theories, and dogmas, in regard to questions which concern the dearest interests of mankind.

If mind can be resolved into its constituent elements; if those elements are governed by definite laws, and if those laws may be discovered, and reduced to practice in training, developing, guiding, and controlling mind, then indeed does mental science become the most useful and interesting study which can engage the attention of man. For mind being the motive power of the world, the source of every influence for good or evil which can be exerted in society, we can not hope to make intelligent progress in our governments, laws, and social institutions till we shall have mastered the principles of mind and the laws of its activity. If, on the other hand, the principles of mind are so inscrutable that their investigation possesses no attraction for any but a few of the very best minds; if they are so abstruse as to be adapted to excite barren speculation, rather than to furnish correct motives for the practical direction of human conduct; then mental investigation becomes merely an intellectual pastime for those who delight in metaphysical subtilties.

If we inquire into the results which have flowed from mental investigation after the old methods, we will find them neither profitable nor encouraging, though the study of mind has engaged the attention of the best intellects of every age since the early Greek philosophers. One system of philosophy has risen from the ashes of a previous one, and this in turn has been subverted by the philosophers of a succeeding generation. What has been affirmed of mind by one school of philosophy has been denied by another, and after the lapse of more than two thousand years there is yet no unanimity among philosophers in regard to the very existence of some of the most common principles and faculties of mind. This result of the efforts which have attended mental investigation is well summed up by M. De Bonald. "Diversity of doctrine," says he, "has increased from age to age with the number of masters and the progress of knowledge; and Europe, which at present possesses libraries filled with philosophical works, and which reckons up almost as many philosophers as writers, poor in the midst of so much riches, and uncertain with the aid of all its guides, which road it should follow; Europe, the center and focus of all the lights in the world, has yet its philosophy only in expectation."

If we inquire into the cause of these barren results, I think we shall find its explanation in the very method of studying mind which your text-book recommends, namely: by shutting up the organs of sense, shutting out the material world, and shutting in the mind upon itself. Metaphysicians have pursued the investigation of mind as though it were an entity almost entirely separate from the body. They have endeavored to hold the mind out like a garment to its own inspection, and turn it round on all sides to its own observation, and by reflection on consciousness to analyze and classify its principles and faculties. But in the present life we are not acquainted with mind and body as two distinct and separate entities, and we can not study either to advantage apart from the other. Of what practical use do you suppose would be a treatise on the five senses which would wholly ignore the existence of the organs through which they are manifested? And what confidence can we place in any system of mental philosophy which studies mind as a disembodied spirit, when the experience of every hour reminds us of the fact that every mental manifestation is affected in a greater or less degree by every bodily condition? But you will be able to appreciate better these observations on the old method of studying mind after I shall have unfolded to you a method which has come under my notice since, like yourself, I puzzled my brain over vain attempts to get some useful ideas out of the philosophy of the schools. I will do this in a series of letters, which will, I hope, relieve me from the task, for which I profess myself wholly incompetent, of resolving the difficulties which you have presented to me for solution.

In considering the mental characteristics of men, we are struck with the great diversity of talent and disposition which they

present. Every individual displays a character which is peculiarly his own, and which differs in a greater or less degree from that of every other individual. Thus in point of intellectual ability, or capacity to know, as your philosophy terms it, we observe that one individual has a peculiar talent for mathematics, another for music, and another for drawing and penmanship. One is able to express his ideas with great fluency, and another passes for a dullard in society because of his inability to give his thoughts expression. The style of one is concise, ornate, harmonious, and abounding in well-chosen illustrations; that of another is dry, diffuse, obscure, and wholly devoid of grace and beauty. One loves to reflect upon the deep and hidden things of nature, and to trace the various phenomena which he observes back to the causes from which they originate. Another readily discerns the mechanical adaptation of things, and turns his reflection upon the phenomena which they present to the invention of labor-saving machinery. Another discovers in every appearance of nature forms of beauty, which he portrays in words which glow with fancy and imagination. And another sees nothing in the objects which exist about him but their most obvious qualities.

In moral character and disposition, also, we observe equally as great diversity as in intellectual capacity. From the noble philanthropist, glowing with love and charity toward his fellow-men, to the base criminal who lives in continual warfare with the officers of justice and the rights of society, what opposite phases of character do we discover? Here, one strictly honest and upright; there, another whom no man will trust. Here, one in appearance fair and fascinating, but in reality a villain; there, another blunt and gruff of manner, but who scorns to do a meanness. Here, one diffident and sensitive; there, another bold and confident. Here, one proud and haughty; there, another humble and fawning. Here, one unstable as water; there, another whom no difficulty nor reverse of fortune can swerve from his purpose. Here, one generous and liberal; there, another mean and miserly. Here, one a natural brawler and fighter; there, another a natural peacemaker. Here, one a firm and constant friend; there, another deceitful and treacherous in his friendships.

Such are some of the common characteristics which we observe among men. It is to be observed, also, that these characteristics are constant. Among your college companions, you do not find that the student who at one time manifests a strong predilection for mathematics, music, the languages, chemistry, or philosophy; at another, has lost all taste for his special study, or that he suddenly acquires a great liking for certain subjects for which he previously showed no aptitude. Neither do you find him who, in one year, is well known for his fidelity and truthfulness, becoming in the next treacherous and deceitful; nor him who to-day is tremblingly alive to the voice of praise or censure, becoming to-morrow callous to the opinion of his fellow-students. But each individual manifests his peculiar character with such uniformity that after we have become thoroughly acquainted with him we are able to predict with considerable accuracy what will be his conduct under any given circumstances.

These talents and dispositions, it is to be further observed, are not the results of training, education, and the circumstances in which the individual is placed, as many philosophers assert, because these traits are often manifested at an age so early that the possibility of their being the result of any of these influences is altogether precluded. Mozart, for instance, composed music at the age of four. Pope says of himself, that he "lisped in numbers for the numbers came." Benjamin West, when a mere child, sketched accurately the portrait of his little sister sleeping in her cradle, with a brush made of hair pulled from a cat's back, and George Bidder was a profound mathematician before his father supposed he knew anything about mathematics.

Great mental capacity in special directions is also often manifested by individuals who have never enjoyed the advantages of early education, and whose circumstances have been, in other respects, most unfavorable to mental development. How many a

man, born to poverty and toil, has risen against the most adverse circumstances to wealth and fame by the force of his own inherent genius. And how many another, born apparently under the most auspicious star, has never risen above mediocrity in any pursuit or branch of knowledge even with the best training, the best education, and under the most favorable circumstances.

Considering the matter in the light of these well-known facts, I think the conclusion is irresistible that the common characteristics which we observe among men are inherent in the mental constitution, and from their great diversity I think it not unreasonable to suppose that they should have separate and distinct mediums of manifestation. What, then, are these mediums? and what is the cause of this great diversity of talent and disposition? These are questions which it is important to resolve before we can have a substantial basis for mental philosophy; yet, they are questions which have hitherto excited barren speculation, rather than led to discoveries productive of practically useful results.

The ancients located the affections and passions in different organs of the thoracic and abdominal viscera, while they referred the intellect to the brain. Thus the heart was regarded as the organ of courage and love, the liver of anger, the spleen of ill-humor, and the bowels of compassion, while the brain was divided into different compartments, as fancy, reflection, common sense, imagination, memory, etc., as the imagination led them to conceive a place appropriate to the different mental faculties. By others, the stomach, the ventricles, the spinal marrow, the pineal gland, and the cerebellum have been severally regarded as the special seat of the sentient soul. Some modern philosophers have taught that beyond its perception of material objects there is not the slightest reason for supposing that the mind ever operates through the agency of any material organs whatever. Your philosophy, I believe, does not commit itself in any very decided terms upon this important question. It simply says, "That the connection of mind with the body and thus with the agencies of an external world are mediately through the nerves, and their origin is in the brain and its elongation in the spinal cord."

It thus leaves you to adopt any hypothesis you choose in regard to the special seat of the mind. This neglect, whether intentional or accidental, is, I think, reprehensible. For, if your philosophy assumes that the brain is the organ of mind, as is generally conceded by the leading physiologists of the present day, it appears to me that its treatment of the subject is very incomplete without a consideration of the physiological conditions by which mental manifestations are affected. If, on the other hand, it assumes that the brain is not the organ of mind, or that with the exception of the organs of sensation, the mind never operates through the agency of any material organ whatever, then it should have cleared away the formidable difficulties by which these hypotheses are surrounded.

If the brain be not the organ of mind, what is its function? Is it, as some old physiologists have asserted, a mere excrescence of the spinal marrow, a sponge, a collection of confused intestines, or a bloodless mass which tempers the heat of the heart? Or is it not much more reasonable to suppose, since it receives a larger proportion of blood, and is more carefully protected than any other bodily organ, that it must have a correspondingly important function?

It has been observed by Cuvier, Blumenbach, and other leading physiologists that in the animal kingdom the brain improves in form and relative size as we ascend in the scale of intelligence, till in man it reaches a development as much superior to what is found in the lower animals as he is superior to them in intelligence. Even among men, the size and quality of the brain differ greatly, and it will be found that the mental manifestations vary in a corresponding degree. Where the brain is below a certain size, idiotism is the invariable result, while men renowned for comprehensive minds and great force of character invariably have heads of unusual magnitude.

If the brain be not the organ of mind, how are we to account for the various men-

tal disturbances which accompany affections of this organ? Consciousness is suspended by a rush of blood to the head as well as by a rapid withdrawal of this natural stimulus. Fever is often attended with delirium, and a blow on the head deprives a person of consciousness. Where the brain has been laid bare by injury, it has been found that consciousness could be suspended by pressure on the brain, and restored by removing the pressure. And where the skull has been depressed upon the brain, imbecility or complete unconsciousness have resulted. Sir Astley Cooper relates that a man on board a vessel in the Mediterranean was wounded in the head by a fall from the yard-arm. He remained in a state of complete insensibility for a period of thirteen months. He was then trephined, and a portion of the skull which was driven in upon the brain was removed. He was immediately restored to consciousness, and in a few days was as well as ever. The last thing he remembered was the capture of his vessel thirteen months before.

Where a portion of the skull has been removed so as to expose the brain to view, it has been found that the brain is agitated in proportion to the degree of mental activity. Dr. Combe quotes a case of this sort from the practice of Dr. Pierguin, of Montpelier:

"A female, aged 26, lost a large portion of her scalp, skull, and dura-mater. A corresponding portion of her brain was consequently bare, and subject to inspection. When she was in a dreamless sleep, her brain was motionless, and lay within the cranium. When her sleep was imperfect and she was agitated by dreams, her brain moved and protruded without the cranium, from cerebral hernia. In vivid dreams, reported as such by herself, the protrusion was considerable; and when she was perfectly awake, especially if engaged in active thought or sprightly conversation, it was still greater."

Again, if the mind acts perfectly independent of material organs, how is insanity to be explained? Is it reasonable to suppose that the immaterial and immortal mind becomes diseased? What a degrading view of spirit such an hypothesis presents! And how are we to reconcile the idea that the mind may become disordered with our belief in the soul's immortality? Is it not much more reasonable to suppose that it is the organ through which the mind acts which becomes diseased, and which thus causes a perverted mental manifestation? If a man's sight or hearing were impaired, would he not be judged a lunatic who should assert that the defect was in the mind and that remedies to prove effectual must be applied to the immaterial spirit? On the contrary, is it necessary even to assert that the functions of sight and hearing are entirely dependent upon the organs through which they are manifested, and that to preserve or restore the integrity of the function we must obey the physiological laws which govern the health of the material organ? But as matter of fact, in nearly all the cases of late years where examinations have been made it has been found that disorder of mind has been attended with disease in the brain. Out of 221 cases of insanity, Sir William Ellis found the brains of 207 diseased, 4 of the remainder were idiots from birth and are consequently excluded, and of the remaining 10, 7 were recent cases, being only about a month ill. In 108 cases of insanity where post-mortem examinations were made by Mr. Laurens, of London, every one showed marks of organic disease. These cases furnish additional evidence that the brain is the organ of the mind, as well as that the mind does not act independently of a material organ.

In sleep and intoxication, also, are we to suppose that it is the mind which rests and becomes drunken? Can we conceive of an immaterial spirit needing repose or becoming intoxicated? But how easily are these phenomena explained by referring them to the organ through which the mind acts; which going into a state of repose or being excited by intoxicants or stupefied by narcotics causes a corresponding condition of the immaterial principle.

These proofs that the mind does not act independently of a material organ, and that the brain is the organ through which it acts, are so self-evident that you may wonder that I think it necessary to produce them or

that any one should found a system of mental science upon hypotheses which they so completely contravene. In explanation, I would say that you have yet to learn, if you have not done so already, that there are very few men who are capable of rising above their preconceived opinions, and the creeds and dogmas in which they have been educated, and considering dispassionately any new notion which militates against their previously formed opinions, however clearly grounded in the truth those notions may appear to unbiased minds. If, for instance, a man becomes affected with the idea that if the mind operates through the agency of material organs, his life-long belief in the soul's immateriality and immortality, and man's accountability are called in question, he will turn a deaf ear to the most indubitable facts which any one can advance to prove that the mind does act through material organs. The honest seeker after truth, however, does not inquire as the condition for accepting any new fact, Does it accord with my creed and the opinions in which I have been educated? He simply asks, Is it true? If it is true, then am I correct in my inference that it contravenes my previously formed opinions? If I am correct in these, then must I renounce those opinions as erroneous; for truth is single and harmonious, and can be opposed only to error.

I wish you to cultivate this spirit of liberality in the consideration of all questions which may engage your attention. The histories of science, philosophy, and religion are filled with instructive examples which illustrate the evil results to the progress of the truth of individuals, sects, and schools, clinging blindly and pertinaciously to their creeds and dogmas, and dismissing as unworthy of candid consideration any subject which appeared to militate against their own pet theories. He who is wise will condemn no subject which he has never investigated, and he must indeed be affected with the most egregious vanity who, in looking back over the history of the past, and considering the many brilliant intellects whose carefully elaborated theories the progress of knowledge has completely overthrown, can self-complacently wrap about him the mantle of his own narrow prejudices, and ignore or heap ridicule upon any subject which appears hostile to his favorite opinions, but whose truthfulness he has never taken the trouble to investigate.

Affectionately yours,

PATER CONFIDENS.

THE OREGON SALMON FISHERY.

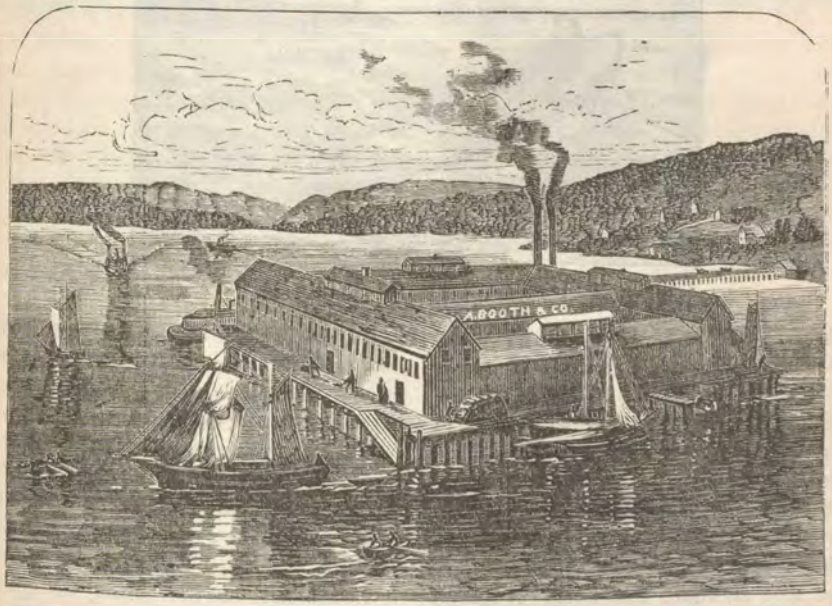
THE copious supply of preserved or canned fish which comes to the table of the consumer on the Atlantic seaboard, and which is due to the enterprise of many companies and individuals in sweeping the rivers of Oregon, deserves more than passing comment. Some years ago it was mooted, that in fish elements exist of special service to the brain and nervous system. This idea has been discussed *pro* and *con* at great length, and the majority of people appear to have accepted it. Certain it is that among the fish which contain phosphoric matter in considerable quantity, the salmon is prominent, and this species of the finny tribe is one of the most highly esteemed of fish by epicures. But its cost, until the introduction of Columbia River stock into Eastern markets, was too great to admit of being used as an article of food by the general population. Previously the chief source whence was derived the salmon supply, was the upper waters of Maine, and they becoming gradually fished out, the price has been correspondingly advanced. The application of the methods of preserving and canning at the fisheries of Oregon materially changed that state of things for us, and now they who are carnivorously given, in a small or large way, may gratify their appetite for salmon at an expense scarcely exceeding the cost of the common varieties of fish furnished by our markets.

Salmon catching and canning on the Columbia River has become a vast industry, employing upward of ten thousand people. The value of the produce exported will probably reach this year five millions of dollars.

Last year 40,000,000 pounds of salmon were caught on the Columbia River. The London *Times* has estimated that the total catch of Great Britain and Ireland for 1876 was 9,000,000 pounds. Thus, according to that calculation, the product of one Oregon river was more than four times the catch of the whole United Kingdom.

A short sketch with regard to the beginning and growth of this industry will probably interest the reader. The first salmon canned on the Pacific coast came from the Sacramento River, and were put up at Washington, opposite the city of Sacramento. Old trappers and hunters had often spoken there of the wonderfully large and fine fish to be caught in the Columbia River; and in 1865 Mr. George Hume started for that then far-off country and secured a location on the river, naming it Eagle Cliff. There suitable buildings were erected, and apparatus transported from the Sacramento River, and the first cans were filled in 1866, by the firm of Hapgood, Hume & Co. This firm finally dissolved, each member starting a separate establishment. Nearly every year subsequent to that saw the erection of at least one new building, and the starting of a fresh enterprise. The general appearance of these canneries is much the same; our illustration of one at Astoria will furnish a good idea of it.

The fish season generally lasts from May until August. The boats usually leave at 4 P.M., and return between 4 and 6 o'clock the next morning. The fishing is mostly done at night, the salmon knowing a net when he sees it, and avoiding it in the daytime. The boat's crew—see engraving—consists of two men, one for rowing and the other for manipulating the net. These nets are from twelve hundred to fifteen hundred feet long, floated with corks weighted with lead, somewhat after the fashion of the ordinary shad net, and fall as much as twenty feet into the water. These nets are stretched across the stream and then allowed to drift down with the current. The fish swimming against the stream are caught by their gills becoming entangled in the meshes. Immediately after the fish are caught, if not drowned in the net, they are killed by a blow on the head. The fish are large, weighing on an average twenty pounds. As soon as possible after they are delivered at the wharf of the cannery, they are prepared for the



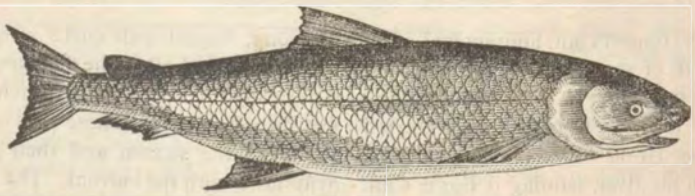
A Fishing Station, Columbia River.

cans. Those who clean the fish become, by reason of practice, exceedingly dexterous, and very rapidly open and disembowel the fish. In some of the canneries the head and entrails are not thrown away, but converted into a very good article of oil. Each can is filled with a bit of fish, just about occupying its interior space, and a very small amount of brine is put in with it. After the can has been sealed, it is placed with others in a steam boiler, where the fish undergoes a cooking operation for an hour. Then, in order to permit the gases to escape, which have been generated by this cooking process, a hole is pricked in the top of the can, and soon afterward resoldered. A second cooking now takes place, when the culinary part of the business is ended. The cans are taken from the boiler, and a shower of cold water is thrown upon them. That they are perfectly tight, is shown by the way the top of the can bends in.



SALMON FISHERS AT WORK.

The question naturally suggested itself, will so great an industry be permanent? The large firms on the Columbia River have invested several hundred thousand dollars in the business, and so far, during the operations of the canning establishments, the draught of fishes has practically remained the same. There are prolific seasons with fish as with fruit or grain, but early settlers in Oregon declare they have noticed no perceptible diminution in number, taking one year with another. The Indians located around Astoria state that the fish run in the Columbia to-day as they did thirty years ago. The cod fisheries off Newfoundland, and the herring fisheries of Scotland, have been steadily drawn upon for hundreds of years, and still keep up their supplies. So it may fairly be anticipated that the salmon fisheries of the Columbia will remain an important industry of Oregon for a long time.



THE COLUMBIA RIVER SALMON.

LOUIS ADOLPHE THIERS, EX-PRESIDENT OF FRANCE.

THE sudden death of M. Thiers has produced wide-spread excitement and grief in France. His long association with the political history of his country, his advocacy of liberal government, and his exceedingly wise administration of affairs as President during the agitations which succeeded the fall of the Second Empire, had given him a solid place in the esteem of his countrymen, second to that of no other living man. Hence it is but natural that his taking off just now should be considered a great national misfortune.



He was born at Marseilles, April 16, 1797, the son of a locksmith, and educated at a public school. He aimed to be a soldier, but his desires in this respect not being approved, he was sent to the College of Aix, where he studied law. He possessed an excellent vital organization and an exuberance of animal spirits, and was so very much given to frolicsome ways that he troubled the authorities of the college considerably. His good nature and earnestness, however, in the end won their esteem, and through their influence it was that he first obtained his seat in the French Parliament. He did not succeed as a lawyer, so he forsook the law and took up the profession of literature, and set to work industriously to acquire a good position. In a comparatively short time he obtained recognition as a promising writer. He wrote for *Le Constitutionnel*, displaying great acuteness and much skill. In addition to his journalistic labors, he wrote a history of the French Revolution, the first volume of which was finished in 1823, the tenth and last in 1832. During the reign of Charles X., M. Thiers exhibited a good deal of spirit in opposition to certain unconstitutional acts of the king and his leading minister, Count de Polignac. About the year 1830 he was elected member of the Parliament for Aix. In 1832 he was appointed Minister of the Interior, but shortly after resigned that post for the place of Minister of Commerce and Public Works, which he held for several years. In 1836 he became Minister of Foreign Affairs, and President of the Council. After a brief service he retired, but again took the former position in 1840. Some unfortunate meas-

ures of diplomacy led to his retirement to private life and to the exercise of his literary talent, when he began his "History of the Consulate and Empire," which was not finished until 1862—a very elaborate work in twenty volumes, the first appearing in 1845. He remained in seclusion until the opening of the Revolution in 1848, when he appeared as a member of the National Guard. He soon, however, became a member of the Constituent Assembly, and afterward of the National Assembly.

Thiers professed to accept the Republic heartily, but President Napoleon did not give him an office, as was expected, and after the *coup d'état* of December 2, 1851, he was banished from France, going to Switzerland, but shortly afterward was allowed to return to Paris. For the next twelve years he employed his time mainly in literary affairs, giving some attention to painting and the fine arts in general. In 1863 M. Thiers was elected by the Liberal opposition a Deputy for the Department of the Seine. Here the little man showed his customary vigor and persistency by attacking the financial administration, the municipal policy of Baron Haussmann, and the Emperor's foreign system. Some claim that his taunts and criticisms were among the principal instigations to the conflict of 1870. When the war with Germany became inevitable, he delivered a speech in which he charged the Government with rushing headlong to destruction, being altogether unprepared for war. Its early reverses made him very conspicuous on account of the brilliancy of his harangues for the defense of France against the invader. He voluntarily undertook diplomatic missions to England, Russia, Austria, and Italy to solicit aid. He visited London September 13, 1870, and conferred with the English Ministry. Subsequently he visited St. Petersburg, Vienna, and Florence. His efforts, as well known, failed, and returning home in October, he thence proceeded to the headquarters of King William, at Versailles, to negotiate a peace in accordance with the advice of the neutral powers. He held several diplomatic conferences with Count Bismarck, with a view to secure an armistice of twenty-five days, so that elections might be held throughout the country for the establishment of a national government. These conferences failed, because Bismarck refused to allow the re-victualling of Paris and other besieged fortifications.

In spite of his unsuccess his popularity with the masses increased, and one of the first acts of the National Assembly, after it had obtained control of Paris, was to confer upon him the leadership of the Provisional Government. On February 28, 1871, M. Thiers introduced the preliminaries of the famous Treaty of Paris for the consideration of the Assembly. It was by this treaty that France consented to have annexed to the German Empire the fifth part of Lorraine, together with all of Alsace, excepting Belfort, and to pay the enormous sum of five milliards of francs, of which one milliard was to be paid that year, the remainder during the next three years by installments. This treaty was voted by the Assembly, on compulsion, it may be added. After the terrible scenes of the Commune and the recovery of the city by the Government army, the peace policy of Thiers was strengthened by the supplementary Assembly elections, which resulted in a very large vote of confidence in his leadership. His authority was enlarged, and his title changed to that of President of the French Republic. On the 24th of May, 1873, he resigned the Presidency, on account of the existence of a majority of the Assembly against certain measures of his, and Marshal McMahon succeeded him.

Like most little men, he was strongly ambitious for notoriety and distinction; sprightly, lively, and jovial. He was also brave; had a very active sense of honor; was not a radical in his views, and would never go beyond the length of what he termed *les libertés nécessaires* in his views of reform. He was a Frenchman of the old school, scrupulous, prudent; declining and refuting new theories from whatever source they might come. He loved fun intensely to the last; his head is particularly marked in the region of Mirthfulness. His practical jokes sometimes approached buffoonery. A writer says: "It is a curious commentary on national manners that so

nimble and volatile a person should have been considered one of the most serious men in France." The Legitimists blamed him for having employed the Secret Service funds under his control to buy the conscience of one Deutz to betray the Duchess de Berri to the Government of Louis Phillippe. This was undoubtedly an unchivalrous proceeding, but it was also a shrewd one, for it put an end to the Revolution which was keeping La Vendée in flames and disturbing the peace of Europe.

His death was occasioned by congestion of the brain, the attack coming on while at luncheon. He had contracted a slight cold a few days before, but nothing was thought of it. He was of full habit, with very active vital functions. His habits were simple; he rose early in the morning, took two short naps during the day, and was remarkable for his intellectual industry to the last, being thought likely to live many years longer. M. Thiers' confidence in his physical endurance was probably too great, and led to effort and exposure beyond what was proper in an octogenarian. In fact the real and immediate cause of the apoplexy is claimed to be a more than usual mental activity on M. Thiers' part for several days previous to the attack.

RESERVATIONS.

THE peace policy is my natural and chosen course of thought and action—yet, without intentional inconsistency, I have been found in the thickest of several engagements—many hand to hand encounters, the sanguinary character of which are attested by numerous scars and disfigurements, caused by bullet, blade, club, and knuckle; nevertheless I am always endeavoring to cultivate friendly relations with every living creature; and none of these conflicts have arisen from any aggressive thought or act of mine. True, in the wilds of Africa and Arizona, life has been taken, but only to save life, and when driven to the wall. So, in the crowded marts on both continents, have I taken the property of others, without an equivalent, simply in self-defense against the shafts of cold and hunger. It may be questioned, had I a right to commit these acts? Abstractly considered, they would be termed murderous and dishonest; yet, if I know anything of myself—and that has been a carefully studied science for thirty years—to take the life or property of the meanest living creature, has always been utterly abhorrent to me. The question must arise, Are we always responsible for such acts? Do not the pre-natal and subsequent conditions of existence seem to create and justify murder and robbery?

Man, like other anthropoids, lived naturally on fruits, nuts, and grains; and would never stray outside the zones which produce those articles in abundance, unless driven. But when on the war-path, and in partly desert regions where time and opportunity were not given for the production or gathering of the articles mentioned, animal food has been resorted to, until man has been gradually pushed to inhospitable regions, and the Arab, Tartar, Esquimaux, and Apache was the result. I confess to a strain of aboriginal blood, therefore may be accused of being not a disinterested party in this suit. However, there have been cases where the prisoners at the bar plead their own case. We choose, rather, to make our plea before taking a place at any bar or in any "reservation." In the abnormal conditions that surround us, and make us what we are, the natural laws of life are subverted, or become inoperative in a measure, therefore exact justice is impracticable, and we only plead for a modicum of consistency. Humanity might ask the removal of the straight-jacket from the poor maniac, yet a more discreet humanity demands its retention on the ground of safety to others. No books ever educated the hand or eye or imagination up to the production of such works as those of Michael Angelo, Canova, or Shakespeare, any more than they have to a knowledge sufficient for a fair judgment of others' acts. The truth in re-

gard to the just relations of man is not obtained by the student in his closet. Dickens said, "Only those learn to know who mix with all of nature's great creations." Judgment is rendered arbitrarily and tyrannically and without any but a theoretical knowledge of the case adjudged in many of the more important instances nowadays. This may presuppose the tribunals composed of persons who never committed an overt act and in most cases were never subject to the conditions making those acts necessary; therefore are one-sided and partial. To be faithful to justice and humanity involves a schooling which but few have the desire or opportunity of obtaining. The old Roman or Justinian law held the subject in the light of children to be cared for paternally by the Government, but modern civilization (?) chooses to suppose every individual acquainted with the law, and responsible for carrying it out, in letter and in spirit; yet in no age has there been such license. Indulgences are granted for the commital by those privileged of every crime under the sun. I here enter a solemn protest against the license and indulgence business. And the sentiment of the majority demand free trade, free thought, the disuse of penitentiaries, custom-houses, and privileges, and a remodeling of the language which calls one and the same act, when committed by different persons, by different names; justifying murder and robbery in one and punishing it in another. It is not claimed that we can get along, as yet, without "reservations;" in our present status, they may be necessary to restrain all, until our ethical strabismus is outgrown; but these "reservations" should not be chosen for their worthlessness and insalubrity, to decimate their occupants. A fair proportion of the breast of our bounteous mother-earth should be apportioned to each of her children. Each tribe kept on their own would eventually end their existence, or effectually cure the complaint; rendering them fit candidates for membership of society at large. In most cases it might be necessary to guard the "reservations" to prevent encroachments by the society tribes; in time all would see the wisdom of this purgatorial school, and accede harmony; but if each within their reservations choose to have tournaments, and by the skillful use of the lance should annihilate each the other, it would be their own loss. As a nomad I plead (and it is certain that I represent the large majority of the world's inhabitants) and beg in the name of justice and humanity for the apportionment. It is necessary, it is right; I want it for myself, and for all other tribes, which now have members scattered in every land endeavoring to hide or fraternize with those with whom they have no sympathy or consanguinity. There is one serious objection, in my mind, to this "reservation" business; and that is the necessity of resorting to the somewhat barbarous custom of tattooing or branding; which would be absolutely essential to the thorough carrying out of the system. Each tribe and subdivision of the larger tribes would require a distinct mark or brand, indelibly fixed. But this need not work a hardship, for by gradations the lowest could attain candidature for each successive tribal mark, which would be an unimpeachable diploma. This brand, together with General Crooke's policy, as applied to the poor insignificant Apache, would serve to keep each on their own "reservations," but nothing else would. This would prevent the Cheyennes, or Arrapahoes, or Crows from straggling into the agents', lawyers', or doctors' reservations, and *vice versa*. It has been said that truth was in the bottom of a well. I believe it. It is not only in the bottom of an unfathomable shaft, but the shaft has "caved" and the poor mangled remains of that idolized creature is buried in no end of rubbish. Who said that they were exhumed, found, brought to light? I would like to see the person and take him by the hand to know and feel if he were tangible, real flesh and blood. I think that some such conversation as the following might ensue: "I hear that you have found truth; is it so? Now let us consult together: You know, my dear man, that the world has been so often deceived by the semblance of truth that we are becoming more incredulous than formerly, and it may be necessary to devise a screen or test in order that all may

be satisfied that yours is the genuine article." (Long silence and deep thought). I suggest, "Weigh well your evidence, to see if some lurking sordid desire is not their father." The tribal division of mankind necessitates that other superfluity, "balance of power." Balance of power requires constant espionage and subdivision; these are all expensive. Suppose the energies that are now squandered in sustaining these castes and landmarks of society were expended in manufactures, arts, and sciences, is there a person living that has the pen or brain to picture or calculate the approximate result? No imaginary paradise has ever equaled the condition possible in which all would be partners if not equal. Equality is a myth. Nature knows no such term. A wise Omniscience arranges all things different. Let us agree to this fiat and differ harmoniously with "reservations."

F. M. S.

HISTORICAL SPELLING.

WELL we remember how we strained our young brains to understand why O-N-E should spell one. If we dared look up, "Please marm, what does E-Y-E spell?" The impatient answer was, "I, of course!" This always silenced further inquiry, though I must confess I never could see any "of course" about it, and burned to ask why? Now I never dared; but if I had, the reply would have been somewhat thus: "It is owing to the inestimable advantages and conveniences with reference to the relations of etymology that are secured by historical spelling." Happily for the teacher, this very syllogistical statement ends all discussions of the subject, for it would be rather difficult to point out any special advantage (or convenience either) in continuing to write the *ugh* of through.

To check the natural desire to find some adaptation of means to ends is the teacher's task, and is a hard one, but the scholar's is harder, to learn that *This is the right way, because it is.*

The English language is complete, and each of its words appears in a peculiar form that tells its derivation and history, and remains the same as a sort of anchor to hold the meaning during the petty vibrations and caprices of pronunciation to which a mature language is always subject. But the language spoken in America, though sprung from the English and bearing the same close resemblance to it that the child bears to the parent, is a growing language, the index of a progressive, youthful nation. And these vibrations around the written form of the mother-tongue, in it, become the germs of permanent changes, for it continually progresses forward and has no tendency to return again. A great part of our population are not of English extraction, and do not understand the principles of English, but they seize on the vigorous idioms that they hear, and cling to them. They are constantly cutting out the irregularities and arbitrary expressions used in England, so that we and the English are drifting slowly apart; and since that language is matured, but ours just beginning to grow, the rift between us must increase, and historical spelling, though very appropriate for them, a ceremonious, conservative nation, is inconsistent with the genius of our people and insufficient for our needs, chiefly because it furnishes no certain way to represent in all cases the sound of a word. This would not make, perhaps, so material a difference if our territory were as small as England, for there would be far less room for local dialects among the educated population. But ours is the widest country in the world which it is attempted to confine to a single dialect. Yet it is obviously necessary, from the peculiar form of our Government, that the language should be identical in every part. With local dialects arise party feelings and sectional differences, but where the language is the same, the people are united by stronger bonds of brotherhood.

> "Wherever sounds the German tongue
> And German hymns to God are sung,
> That is the German's fatherland."

It is a matter of history that States of different language never succeed in a friendly

union. Now, we do not imagine that our country can ever be divided up into languages; but when one letter has six sounds, as A in our alphabet, the wonder is that there are not a great many more provincialisms (the foundation of dialects) than there are among us. The Senate had to laugh, when the gentleman from Connecticut said, "A rolling 'stun' gets no moss;" and the effect of his eloquence was entirely spoiled. Yet the good people of Connecticut are not so much to blame for mistaking the sound of the O-N-E in stone, for the same letters spell un, in many words, as done, none, one, etc.

But besides its opposition to the progressive genius of our language and its being unsuitable for a vast population like ours, there are certain grave faults in Historical Spelling *per se* which would justify a practical people in tabooing it.

First: it is really "Historical Spelling," and embraces not only the history of the English language, but that of every nation which it ever came in contact with. And all this history and etymology in one small spelling-book render it irregular and promiscuous to an absurd degree. How much practical knowledge in science might be obtained with the same study and time that is required to master all the rules and the still more numerous exceptions of Historical Spelling! Words from the Latin, as a rule, are the most regularly spelled that we find in our dictionaries; but there is a list of German and Greek nouns which, though perfectly regular at home, when "anglicized" become choice subjects for spelling-matches. Among these are gneiss and schism, phthisic, etc. So numerous, indeed, are the lists of queer words that by the time all are mastered, the better part of a life is spent; and even then, if one meets the name of a new Western town, he does not know how to pronounce it, for he does not know whether the spelling is English, French, Indian, or what!

The only real objection to a phonetic revision of our spelling is the disturbance of etymological relations. We do not think that this would be great, but if it were, the time and pains wasted in long years of study to write and pronounce well, are more than can be recompensed by any convenience to etymologists. We are a practical people, and spelling might be such that even the youngest could soon understand it perfectly. Few are interested in etymology. The people are greatly concerned in easy and correct reading. Is it not better, then, that the few should consult an etymological dictionary, than that they should glean a little from the word's form, and every one else be forever perplexed with endless Historical Spelling?

A WONDERFUL LAKE.

AWHILE since, we met with a description of a lake in Central Florida, of which the following is the substance. It reads, indeed, like some of the stories in The Arabian Nights, but having the confirmation of scientific authority in the person of Prof. J. P. Steele, we do not hesitate to publish the account:

"'This lake rivals the famous valley of Sinbad the sailor. It is thought to average 2,000 feet down to the water, all round. The walls may be reported as entirely perpendicular, running down into the water and leaving no beach. The depth of the water is unknown, and its surface is smooth and unruffled, as it lies so far under the surface of the mountain that the air currents do not affect it. Its length is estimated at twelve miles and its breadth at ten. There is a beautiful island in its center, with luxuriant trees upon it. No living man has ever yet reached the water's edge, and it is not probable that any ever will. It lies silent, still, and mysterious, in the bosom of the 'everlasting hills,' like a huge well scooped out by the giant genii of the mountains in the unknown ages of long ago, and all around it, great primeval forests an eternal watch and ward are keeping.'

"In company with an experienced guide I reached the little lake in question at about the hour of ten in the morning. How large

it was I could not tell, but I judge it must be of considerable size, from the fact that I could not see across it, although enjoying a kind of bird's-eye view from a location some distance above the level of the water.

"Seeing nothing unusual about the place, I was on the point of expressing my disappointment to the guide, when he, having read my thoughts, cut all short by asking that I make a careful survey of the water, remarking, at the same time, that while there was really nothing extraordinary about the lake itself, it was strangely and wonderfully inhabited.

"I turned my attention to the water, and was soon convinced that I had, undoubtedly, met with a phenomenon, for it was so clear, so very transparent, that I could see through it in every direction with as much apparent ease as if it had been the atmosphere itself. Presently I saw one of the inhabitants hinted at, a little creature of a light brown color, looking, as it glided here and there, through the pure element, not unlike a common chimney swallow. Then came another, and another, and another, until all the waters of the lake seemed to be thickly swarming with them. They were very busy and very swift in their motions, darting, whirling, and angling with the greatest ease and the most charming grace; the guide said that like birds of the air, they were in quest of their prey, feeding upon animals too small to be seen by us from our stand-point.

"Suddenly, while I was gazing in wonder upon these strange creatures, a new actor appeared in the person of a larger animal, about the size, shape, and color of a huge muskmelon. He was quite transparent, so much so that I could see through and through him as plainly as if he had been a glass jar; and as he moved leisurely about, I noticed that he was catching and devouring the little 'swallows' without mercy. His interior, which seemed to be a huge cavity—nothing more—was literally filled with them, some still alive and swimming about in their strange prison. The entire mass held within his gigantic stomach kept up a rapid whirling round and round in one direction, from which I inferred that he had no regular digestive organs, but simply *wore* out his food; that is, reduced it by friction to a proper condition for his sustenance.

"Scarcely had I got fairly interested in this extraordinary animal when along came something which looked, with its slim, arching neck, very much like a swan. Its course was so directed that ere long it was brought into contact with the 'muskmelon,' and a fight was the consequence. It was a short fight, however, for neither of the parties seemed to relish the business, so they separated and struck off in opposite directions. A little distance, and the 'swan' met another of its own kind, and they commenced billing and cooing like two mated doves; but their pleasures were destined to be of short duration, for just at that instant a large and hideous-looking creature, with great horns and glaring eyes, pounced upon them from a covert hard by, seizing them both. A terrible struggle ensued, in the course of which one of the 'swans' made its escape, but the monster gripped the other fiercely by its slender neck until it ceased to struggle, after which he settled down with it to the bottom of the lake, and very quietly began converting it into a meal.

"About this time I noticed a second monster equally as frightful in appearance as the one just referred to, though evidently of a different species. He was moving along on the bottom of the lake, and unless his course were changed, would pass very near the other. The first monster's treatment of the 'swans' had made me his enemy, so I was well pleased with the turn affairs showed a prospect of taking; I desired that his banqueting should be disturbed. And it was. The new-comer found him, and went in for a share of the prey. A battle, the most frightful that I had ever before witnessed between two living creatures, immediately commenced. They seized each other and rolled over and over in a real death struggle, for several minutes, in the course of which they actually tore each other limb from limb. Finally one of them yielded up and died, after which the other with but two legs left out of six, dragged itself slowly away. And another installment

of animals, some like gigantic leeches, and others like Oriental turbans, and all effecting locomotion by stretching and pulling themselves into every conceivable shape, settled down and fell to regaling themselves upon the carcasses. They were, doubtless, the vultures of this remarkable body of water.

"Half a day or more was spent by me in watching the inhabitants of this Florida wonder. In the course of that time I saw very many strange sights—more than I could hint at in a short article like this. Besides, a written description could convey but a faint idea of the reality; one must see for himself before he can appreciate. Every reader of this *Journal* who has not already examined the remarkable body of water under consideration should do so without fail before he dies, for it will give him new ideas attainable from no other source. If he can not make it convenient to come all the way to Florida for that purpose, let him arrange to see the lake at home. A good microscope with a drop of impure or stagnant water upon the stage will enable him to have the same kind of lake at any locality he may select."

UNPARDONABLE IGNORANCE.

THERE is much ignorance in the world. Some of it is pardonable because it is unavoidable; but there is much of it that might be avoided, and that may properly be termed unpardonable ignorance. There are very few people who may not attain to a good general knowledge of those things which distinguish the intelligent man. We can not all be great, but we all may do our best; we can not all be learned, as scholars use that term, but we all may make the most of our opportunities. That ignorance which results from neglecting privileges, is certainly reprehensible; and the world, shame though it be, is full of just such ignorance.

What right has a man whose early education has not been wholly neglected, to remain ignorant of the country in which, and the Government under which, he lives, and yet to claim those rights and exercise those privileges which demand the highest intelligence? What right has a man voluntarily to remain in ignorance, and yet to force the evil effects of his ignorance upon the public? We are not among those who would establish a lettered aristocracy, or would ask the man who offers his vote, to give the inclination of the earth's axis to the ecliptic, the source of the Nile, and the center of the solar system. But we do think it a shame that men should be needlessly ignorant of those things on which, as voters, they are called upon to decide. We do claim that every man should know for what he votes, and why he thus votes. In a Government like ours, in which every man is a ruler, the intelligence of the masses is our only safeguard; and, though much boasting is indulged regarding our intelligence as a people, the writer fully believes that the greatest danger to American institutions lies in the blind ignorance of a large proportion of our voters. We need fear nothing from without; all danger lies within. And while we have more than a million of voters who know no more about the genius of our Government than a child of six years of age, we are by no means as secure as we fondly imagine ourselves to be. In ignorance there is always danger.

The privileges of the schools and the cheapness of books and periodicals, place general information within the reach of nearly every one; and they who neglect to profit by their opportunities, are unpardonably remiss in their duty both to themselves and to the country. Theirs is, indeed, *unpardonable ignorance.* E. T. BUSH.

HUMAN ORGANIZATION MULTIPLE.—Out of the letters of the alphabet words without end can be made. Now, a man has some thirty distinct and describable tendencies or faculties; and each has its own law; and the law of God has respect to every one of these; and what a vast complication they make! We can classify them and call them physical laws, social laws, moral laws, and spiritual laws; but we can not comprehend all the results which they are capable of producing in the higher realms of their

action. Above physical elements, which have to do with our relations to the material world, and the social elements which have to do with our relations to each other on earth, are others which are less apt to be understood. There is the reflective, which plays an important part in the reasoning process. There is the perceptive, which takes cognizance of the unseen. Then comes in imagination. After that comes in aspiration—that indefinite wanderer that goes seeking every whither, on every side, for rest, and finds it not. Every generous soul has this longing for something higher, something purer, something better. And here we break into the great invisible, spiritual realm, that is unexplored and unexplorable by the mortal eye; that is, and must forever be, unknown by the flesh, but that is to be known and inherited by the spirit. In all this mighty plexus of laws which run with the human faculties, connecting man by the body with the terraqueous globe, connecting him by the social elements with society and with business, connecting him by the intellect with the universe, and connecting him by faith and spirituality with the great populous world above, with angels and archangels, and with God himself, what vast creatures we are! How large a man is when you look at him in the light of all his possibilities and connections!—BEECHER.

THE WORK OF A HURRICANE.

THE village of Pensaukee, situated twenty-four miles north of the city of Green Bay, Wis., was entirely swept away by a whirlwind on the evening of July 7th. About half-past six o'clock in the evening a violent thunder-storm arose, which increased in fury, and at seven o'clock blew a perfect hurricane. The whirlwind came from a north-westerly direction, and is said to have resembled a dense cloud of fire and smoke, and moved at a terrific rate of speed. Huge trees were torn up by their roots and hurled a distance of twenty feet into the air. Some of the villagers ran from their houses and clasped their arms around the fence-posts, and in that way were saved. Houses were taken up, and the spot where they once stood left entirely bare, not even the foundations being left standing. The scene after the storm was sickening; cattle strewed the ground in all directions, many of them being dashed to pieces. F. B. Gardner's fine hotel was entirely destroyed. This building, which was built for the accommodation of fishing and hunting parties, was a handsome three-story and basement brick building, and is now a mere heap of ruins. Only one house escaped destruction, it being situated on the outskirts of the village. One saw-mill, one shingle-mill, and one grist-mill are entirely destroyed, the boiler of the grist-mill being thrown a distance of ten feet. Among the other buildings destroyed was the Company's store, in which was a large safe, and which was blown a distance of twenty feet, the Chicago and North-western Railroad depot, a school-house, and a large boarding-house. Two adults and four children were killed, and many seriously injured. One man and three children were blown into the river from a distance of about two hundred feet. A small tug-boat was blown clear out of the water and the fragments scattered to the winds.

The loss of property in the village will probably exceed fifty thousand dollars, and there are many farm-houses, barns, etc., north-west of Pensaukee destroyed. Many almost miraculous escapes are reported. The clerk in the store jumped through the window and lay down close to the building. The store was blown down and he was covered with the *débris* of the ruins, but escaped without a scratch. One young man was blown against the wall on the inside of the hotel; the wall fell out and he went with it; more than half the building was blown down in his vicinity, yet he escaped with a few scratches. W. H. H.

SLANDER.—Take half an ounce of Truth, add to it five ounces of Malice, five of Distrust, ten of Idle Talk, ten of Exaggeration, ten of Carelessness, fifteen of Love of Excitement, fifteen of Self-satisfaction, twenty-five of Indifference; stir *ad infinitum*, and you will have a fine SLANDER. This can be used in all seasons, and the atmosphere does not affect it.

Then there is always some basis?

Always, however slight—with only the necessary exceptions to prove the rule.

G. H. H



It is only by training all together—the physical, intellectual, and spiritual elements—that the complete man can be formed.

WHAT AND HOW SOME GREAT PEOPLE ATE.

IN a late number we cited the facts supplied by history with reference to the diseases which were the immediate causes of the death of many distinguished men. In the following article we have an array of interesting data which hygienists could apply, we think, with better effect than the writer, to the resolution of questions which have arisen concerning the causes of the maladies and infirmities of the memorable persons quoted.

"Mr. Buckle has traced the physical, moral, and intellectual degeneracy of the Hindoos to the element of starch in rice. If only their remote ancestors had lived on wheaten bread and good roast beef, instead of rice, the history of the world would have been changed, he thinks. Sir James Mackintosh used to say he believed the difference between one man and another was produced by the quantity of coffee he drank. Who, then, will deny that it is worth our while to ask what has generally been the food of great men? If, says Mr. Carlyle, heroism be sincerity, may we not all be heroes? If, say we, greatness is the result of good living, may we not all become great? Unfortunately it is extremely difficult to lay down any proposition on the subject with scientific accuracy. Facts there are in abundance: no attempt as yet at classification. We are in the experimental stage of a new science—for such it may claim to be, in these days, when it is sought to refer all spiritual effects to physical causes.

"'Great men are great eaters' would probably be the first exclamation of one who was given to over-hasty generalization. There would indeed be many examples to support such a rule. Charles V., for instance, was an enormous eater. We are told that 'he breakfasted at five on a fowl seethed in milk and dressed with sugar and spices. After this he went to sleep again. He dined at twelve, partaking always of twenty dishes. He supped twice; at first soon after vespers, and the second time at midnight or one o'clock, which meal was perhaps the most solid of the four. After meat he ate a great quantity of pastry and sweetmeats, and he irrigated every repast by vast drafts of beer and wine. His stomach, originally a wonderful one, succumbed after forty years of such labors.' (Motley, 'Rise of the Dutch Republic.')

"After all, Charles died at an age—about fifty-eight—at which we are accustomed in these days to consider a statesman as still in the prime of life. The love of pastry appears to have been hereditary in the House of Hapsburgh. Philip II., the same historian tells us, 'looked habitually on the ground when he conversed, was chary of speech, embarrassed, and even suffering in manner. This was ascribed partly to . . . . habitual pains in the stomach, occasioned by his inordinate fondness for pastry.' Philip ordering an *auto-da-fé* after a meal of gooseberry tart, which had disagreed with him, is a subject for an historical picture.

"Frederick the Great is another illustration of the rule. Though he could dine on a cup of chocolate in war time, he loved good eating and drinking, and undoubtedly hastened his death by refusing to conform in any way to proper rules of diet. 'The King,' wrote Mirabeau, who was in Berlin at the time, 'eats every day of ten or twelve dishes at dinner, each very highly seasoned; besides, at breakfast and supper, bread-and-

butter covered with salted tongue and pepper. We are at the last scene.' No wonder. A short time before, a gentleman dined with Frederick, when an eel-pie was brought to table which he declared was so hot 'that it looked as if it had been baked in hell.' The king was immoderately fond of these eel-pies, peppered to excess. But about six weeks before his death we have the record of a breakfast such as a sick man has rarely eaten. Our authority is again Mirabeau. 'On the 4th of July, when the doctor,' the celebrated Zimmerman from Hanover, 'saw the king in the afternoon all had again changed for the worst. He had applied himself to public business from half-past three in the morning till seven. He then ate for his breakfast a plate of sweetmeats, composed of sugar, white of eggs, and sour cream; then strawberries, cherries, and cold meat.' Frederick's illness was dropsy. He died on the 17th of August, 1786. Every schoolboy will remember the parallel of the English king who died of eating too many lampreys. King John, too, is said to have died of a surfeit of peaches and new ale. The verdict of modern epicures will probably be, 'Served him right.'

"Most of the English kings, we suspect, were fair trencher-men, as most of them were also men of ability. There is a curious anecdote of Henry VII. bearing on this subject. The king had been out hunting in the neighborhood of Windsor. His eagerness in the pursuit of the chase had carried him out of sight and hearing of his retinue. Night was falling; return to the castle that day was inexpedient, for close at hand lay the Abbey of Reading. Thither, accordingly, the king turned his steps. His habit was simple, and the good monks took him for one of the royal foresters, while Henry, for reasons of his own, did not care to undeceive them. He was hospitably entertained, and the lord abbot looked on with an approving smile at the hearty performance of his guest. At last he said, 'Truly I would give his grace your master the half of my revenues for so good an appetite.' Three days passed; the abbot was suddenly arrested in the king's name and hurried to the Tower, where a diet of bread and water was assigned him. The end of the story may be imagined. Before a month was over the abbot had recovered an excellent appetite for more substantials. But the tale is obviously apocryphal. Even a Tudor could not have arrested a mitered abbot in this summary fashion.

"Descending to the Stuarts, we find Henrietta Maria, at her first banquet in England, eating pheasant on a Friday, notwithstanding the signs and even open remonstrances of her French confessor. Poor girl! she was scarcely seventeen, and the sea passage had probably given her an appetite.

"Her estimable son, King Charles II. of glorious memory, delighted in eggs and ambergris, of which we may hope he partook moderately. His death was supposed by some to have been occasioned by poison administered in this his favorite dish.

"William III. both ate and drank more than was good for him. He loved to sit many hours at table: indeed, dinner was his chief recreation. Nothing must interfere with his enjoyment; the Princess Anne might look wistfully at that dish of young peas, but she looked in vain, for the king ate them all, and never offered her a spoonful. She revenged herself by calling the deliverer 'Caliban.'

"Among other sovereigns we find the great Napoleon a voracious eater. Some one has attributed the loss of the battle of Leipzig to the effects of a shoulder of mutton stuffed with onions, with which the emperor literally gorged himself, so as to become incapable of clear-minded and vigorous action. He ate very fast. The State banquet at the Tuileries lasted about thirty-five minutes. On the other hand, he was no lover of wine. In that melancholy voyage to St. Helena, he offended the English officers by rising from table before drinking had fairly begun. 'The general,' one of these prigs had the brutality to say in his hearing, 'has evidently not studied manners in the school of Lord Chesterfield.' Their idea of politeness—certainly not Lord Chesterfield's—was to drink on until you dropped under the table.

"The founder of the greatness of Russia

must unquestionably be added to the list of great men and great eaters. Macaulay tells us how, when Peter the Great visited England in the year 1698, the immense quantities of meat which he devoured, the brandy which he swallowed, and which, it was said, he had carefully distilled with his own hands, were during some weeks popular topics of conversation. Great as was Peter, he might have found his peer in the Roman Emperor Maximin (A.D. 235–238), who could eat in one day forty pounds of meat and drink six gallons of wine—unless the historians lie.

"There can be no doubt, however, that the Roman emperors numbered among them many a notable glutton. Heliogabalus loved to sup on the tongues of peacocks and nightingales; he fed his lions on pheasants and parrots. His Majesty would also give a zest to the pleasures of the table by assembling companies of guests who were all fat or all lean, or all tall or all short, or all bald or all gouty. Capital fun, too—for the Emperor. The truth of the story that Nero enriched his soups by dissolving diamonds in them may safely be left to chemists to decide.

"Of the first, the true Cæsar, of him who has been called the greatest character in history, it may be sufficient to quote the famous saying of Cato, 'That of all those who had helped to . . . . overthrow the republic, Cæsar was the only sober man.' It is not the less true that he loved the pleasures of the table, and was an affable and genial host. As a guest he probably gave the finest example of high breeding that has ever been known. The story is familiar as told by Suetonius. The dictator was dining out. Some rancid oil was served with the salad. Every one else made wry faces. Cæsar appeared not to perceive the mistake and asked for another supply.

"Heyne, while editing his 'Tibullus' in Dresden in a poor comrade's garret, with the floor for his bed and two folios for a pillow, gathered peasecod shells in the streets and boiled them for his dinner.

"When the Emperor Julian was first elevated to the rank of Cæsar, the young philosopher was quite distressed at the imperial *menu*—so elegant and sumptuous was the bill of fare. Pheasants he positively forbade to be brought to table, and extended the same prohibition to sow's udder (probably boiled in milk), a famous Roman delicacy. Whether this last order was purely a heroic instance of self-denial may be doubted.

"Mahomet, though the founder of a sensual religion, which promises a sensual paradise, was himself an abstemious man. 'Disdaining,' says Gibbon, 'the penance and merit of a hermit, he observed, without effort or vanity, the abstemious diet of an Arab and a soldier. On solemn occasions he feasted his companions with rustic and hospitable plenty; but in his domestic life many weeks would elapse without a fire being kindled on the hearth of the prophet. The interdiction of wine was confirmed by his example; his hunger was appeased with a sparing allowance of barley-bread; he delighted in the taste of milk and honey; but his ordinary food consisted of dates and water.'

"The old proverb said, 'Tell me what you drink, and I will tell you what you are.' Brillat Savrin varied it to 'Tell me what you eat, and I will tell you what you are.' Neither is a good criterion. Temperament, nationality, climate, produce a thousand individualities. It is said that an Englishman fights best when full, a Frenchman fasting, and a Dutchman drunk; a Prussian, we might add, with a pipe of 'requisitioned' tobacco in his mouth. Herodotus tells us of a wise custom among the Persians: when a question of State was to be debated they got drunk and gave their opinions under the encouraging influence of the wine; next morning they considered the subject when sober, and then compared their judgments. Herodotus would probably have ascribed the imposition of the match-tax and the withdrawal of the tax to two different Cabinet councils—one after dinner and one after breakfast. The same of the prohibition to hold a meeting in Trafalgar Square and the withdrawal of that prohibition.

"An extract from Boswell's 'Life of Johnson' is not to be resisted in a paper on the 'Food of Great Men.' 'When at

table he was totally absorbed in the business of the moment; his looks seemed riveted to his plate; nor would he, unless when in very high company, say one word, or even pay the least attention to what was said by others, till he had satisfied his appetite; which was so fierce and indulged with such intenseness that while in the act of eating the veins of his forehead swelled, and generally a strong perspiration was visible. To those whose sensations were delicate this could not but be disgusting; and it was doubtless not very suitable to the character of a philosopher, who should be distinguished by self-command. But it must be owned that Johnson, though he could be rigidly abstemious, was not a temperate man either in eating or drinking. He could refrain, but he could not use moderately. He told me that he had fasted two days without inconvenience, and that he had never been hungry but once. They who beheld with wonder how much he ate upon all occasions, when his dinner was to his taste, could not easily conceive what he must have meant by hunger; and not only was he remarkable for the extraordinary quantity which he ate, but he was, or affected to be, a man of very nice discernment in the science of cookery. He used to descant critically on the dishes which had been at table where he had dined or supped, and to recollect very minutely what he had liked. When invited to dine, even with an intimate friend, he was not pleased if something better than a plain dinner was not prepared for him. I have heard him say on such an occasion, "This was a good dinner enough, to be sure; but it was not a dinner to ask a man to." On the other hand, he was wont to express with great glee his satisfaction when he had been entertained quite to his mind. One day, when he had dined with his neighbor and landlord in Bolt Court, Mr. Allen, the printer, whose old housekeeper had studied his taste in everything, he pronounced this eulogy: "Sir, we could not have had a better dinner had there been a *synod of cooks*."

"'In the matter of drink he frankly confessed that his liking was for the strongest, as it was not the flavor, but the effect that he desired. He loved to pour capillaire into his wine, and melted butter into his chocolate. [What wonder that he was dropsical, wheezy, short-breathed, etc.] Voltaire's taste, by the way, was curious in this respect, for he mixed coffee and chocolate together. One remark of Johnson's seems to hit the bull's-eye. "Wherever," he said, "the dinner is ill got up, there is poverty, or there is avarice, or there is stupidity; in short, the family is somehow grossly wrong, for a man seldom thinks with more earnestness of anything than he does of his dinner, and if he can not get that well dressed he should be suspected of inaccuracy in other things."'"

W. G. MURRAY.

ANIMAL HEAT.

FROM the classical investigations and experiments of the distinguished physiologist, Claude Bernard, on Animal heat, its regulation and influence on fever, published in the *Giornale Internazionale*, 1877, No. 1, are extracted the following conclusions:

By means of thermo-electric sounds it is proven that venous blood is warmer than arterial, and the blood of the vena cava inferior in consequence of thermal sources in the liver, and hepatic vein is warmer than that of the vena cava superior. Since the superior vena cava with its branches is outside of the abdominal cavity, it resembles the superficial peripheric veins in containing cooler blood, and therefore it is that the blood emptied from it into the heart is cooler than the blood emptied from the heart into the carotid arteries. The right auricle also receives cooler blood from the lower part of the body. But after the cooler and warmer venous blood have become mixed, the blood in the right ventricle is still warmer than that in the left.

As regards the influence of the nervous system, the author distinguishes between dilating and contracting nerves (*nervi dila-*

torii et constrictorii), *i. e.*, such as effect dilatation or contraction of the blood-vessels. The first set he is inclined to call *trophic* nerves, as he has shown that by section of the trigeminus, paralysis of these nerves ensues and disturbances of nutrition.

Nutrition and animal heat are effected solely by the influence of nerves upon the circulation of the blood. Two kinds of vaso-motor nerves, therefore, must be recognized: *nervi medullares vaso-dilatorii* or *caloriferi*, which effect oxidation of the tissues, denutrition, a metamorphosis of anatomical elements; 2d, the *nervi vaso-motorii constrictorii*, which effect nutrition and organization of new tissue. These are also the *nervi frigorifici*, which lower the temperature and hold a balance against continuous oxidation. Wherever, then, new tissue is formed, the *nervi frigorifici* are engaged. Therefore it is that wounds cicatrize quicker under cold-water irrigation, and in animals in hibernation, than in summer, or in the state of activity.

In fever, on the other hand, there is greater activity of the *nervi caloriferi*, in consequence of which there is continuous oxidation of tissue, denutrition, and emaciation. Exact physiological experimentation thus confirms clinical experience. It is the great heat that constitutes the danger to life in fever; the oxidation of tissue, the reduced nutrition, that leads, unchecked, to death.

The therapeutic indication is to check the extraordinary activity of the calorific nerves by stimulation of the nerve-centers presiding over the constricting or frigorific nerves. Hence the efficacy of cold baths. Whether quinia, ergotin, and salicylic acid act in the same way, remains to be proven by further experimentation.—*Cin. Lancet and Observer.*

CONSECRATED LIFE.

THERE are wants peculiar to certain times in the history of the world. The need, it seems to me, of the present time for the glory of God and the progress of pure and undefiled religion is *consecrated life*. The times do not lack men of recognized and acknowledged ability, men of liberal education, men who can guide ships, run engines, control large manufactories, men who can command armies and govern nations, but it does lack men, and women too, who can and do *govern themselves*.

We forget that "he that ruleth his spirit is greater than he that taketh a city." It is, no doubt, easier sometimes under the spur of abnormal ambition, love of conquest, and desire of gain, to "take a city" than to control these unlawful desires and practice the unselfish precepts of the Gospel of Jesus by "doing unto others as we would that they should do unto us."

Many perish, perhaps, for lack of knowledge, more are lost because they do not *live* the truth as they know it.

THE IRREPRESSIBLE CONFLICT.

Just here comes in the great conflict between man's carnal nature, with all its natural and acquired wants and appetites, and God's will as manifested in the constitution of his being. This is what that most profound philosopher, Paul, called "minding the flesh." With equal physiological, moral, and religious truth, he says that the minding of the flesh is death. If *unrestrained*, it sooner or later leads to the destruction of the body and the mental and moral powers. God in His great scheme of benevolence, in which He brings life and immortality to light, placed before man not only bodily health and length of life and happiness in this world, but moral purity and excellence here, and eternal life and happiness in the future world, as motives to induce him to consecrate himself wholly to the service of high, noble, unselfish purposes.

IMPORTANCE OF THE BODY.

Our bodies may become habitations for the Spirit. Shall we, by improper indulgence of appetite and passion, by unhallowed desires so debase, defile, and blunt our perception of truth and right, prostrate our spiritual faculties as to shut up the avenues by which God's Spirit ordinarily enters within "this tabernacle?" No man can pre-

sent his body as a living sacrifice, acceptable to God, while indulging in habits that are destructive to the physical, mental, or moral powers. We can not deny that many of the excellent ones of the earth have learned, through physical sufferings, the lesson of obedience. But we believe that he who can, by obedience to the laws of health, not living after the flesh, but after the spirit, enjoy vigorous health, devoting it to noble purposes, *best* serves humanity and glorifies God. It may be easy under the influence of the sentiment, "Let us eat and drink for to-morrow we die," to barter the possibility of high attainments in the present life, and a glorious inheritance in the future, for a mess of earth's pottage.

PERFECTION OF CHARACTER.

This embraces more than simple desire to be "saved;" it requires daily, hourly, and persistent endeavor. The low places of self must be lifted up. The sharp corners must be broken off, and the rough places made smooth. Man is not left to struggle for this high attainment against great opposing forces unaided. He that truly turns his face upward, seeking to *know* his duty as God reveals it, seeking to *do* his duty as God commands, will find his path like that of the just, "shining more and more unto the perfect day." The day which by its clear light will reveal unto him still more of truth, more of duty, more of divine love and guidance, "Then shall ye know if ye follow on to know the Lord." Where finite wisdom ends, infinite wisdom may begin. Where *finite* capacity reaches its utmost limits, infinite power may come to give success.

Man's hour of extremity, when in his weakness he breathes the prayer of faith, is ever God's time to reveal Himself most lovingly and helpfully, the time when out of weakness he is made strong.

FEAR OF FAILURE.

Many persons are deterred from entering upon a course of life calculated to develop their latent powers and call into activity their highest faculties by the fear of *failure*. They say, "We would prefer to remain in comparative obscurity, assuming no obligations, making no professions, rather than fail to reach a high position." This is wrong. Such persons are exercising a certain kind of pride, or else they lack *true courage*. You should press forward though you may not attain to the highest position in life's honorable and useful pursuits or professions. Every one shall be held responsible for his one, two, or three talents. You dare not say because I have but *one* talent I may bury it in the earth. You may not lawfully hide God's money; no, you must put it on exchange. You must study your qualifications and the world's needs, and seek to render the highest service within your power. You have an ideal life higher, purer, and nobler than your actual life; strive to live it.

Be true to truth in all personal relations to it. One of the grandest ways in which to testify to the truth is to *endure* patiently, adhere to right. In some men's hearts are works where falsehoods are hid away, and because of this they are unsuccessful. Each one holds truths peculiar to himself. No truth, perhaps, is known by any one but which, sooner or later, he will be called to utter and maintain. Truth is not revealed or acquired to lie dormant. God will manufacture providences for you if you are faithful, but you may not expect such divine assistance if you are a coward. He whose life is hid in the bosom of God shall never fail.

G. C. MC ELROY, M.D.

TEA AS A SURGICAL ADJUVANT.– In the course of a lecture on contused and lacerated wounds, given by the late Prof. Crosby, of Bellevue Hospital, New York, he made the following pertinent remarks with regard to the use of stimulants in medical and surgical practice. In the treatment of a patient who had lately sustained very severe injuries to the head, he had employed strong tea as a substitute for alcohol: "I may say that the use of strong tea was forced on my notice by the patient, who refused to take any form of alcohol. He was suffering from shock induced by an amputation performed between the middle and lower third of the thigh. This amputation was secondary to a gun-shot wound, and was what the French call *mediate*. The shock was ab-

solutely terrific; the pulse remaining whole and pulseless for several hours. Failing to quiet his conscience in regard to the use of the alcohol, I gave him strong tea freely, and was gratified to find that he did well with it, reaction soon taking place. I may also add that in women, after delivery, it forms a satisfactory substitute for alcohol, and one which will bear a more extended use."

In regard to this use of tea we have only to say, that we are very willing to accept Dr. Crosby's authority, and believe that the general disuse of alcohol in its favor would be productive of great benefit in all cases where some stimulant is deemed necessary for the prompt recovery of a person from great nervous and blood depression.

OUR NATIONAL DISH--PIE.

The Prevalence of Pie—The Charm of Pie—Is Fat Digestible?—Fat as a Relish; as an Aid to Digestion—New Dishes — English Plum-pudding — Yorkshire Pudding—The Nature of Animal Fat—Fat is Dead Matter.

HEAR what an Englishman says of it: "Pie is one of the most established of American institutions. Indeed, the saying goes that 'all Americans die of pie.' It is nearly as venerated and probably more dangerous than our own roast beef and pudding, the one inseparably associated in the popular mind with Thanksgiving as the other is with Christmas Day." We have made this quotation not for its aptness nor its elegance, but to get a glimpse of ourselves as others see us. Now we will endeavor to dissect our own pie, and before we finish, perchance we may put a lancet into our neighbor's pudding.

Everybody who thinks at all on the subject, seems to take it for granted that pie is unwholesome. Doubtless many speak from experience, certainly many have opportunity to do so.

THE PREVALENCE OF PIE.

All through New England and in some of the Middle and Western States pie is the standard dessert at dinner. There may be pudding or there may not, but pie there must be, and usually two or three kinds of it, where there is any variety at dessert. At some hotels, and in some private houses in New England and in Northern New York, we have occasionally seen pie for breakfast, and it is sometimes put upon private tables for supper, though we believe this is never considered stylish. Formerly it was quite customary, but it has gradually been replaced by cake. There is no question but that Americans like pie, and as we have observed the preferences of foreigners at our own tables, we may add that we are much more partial to it than foreigners. But why should we like it? What is

THE CHARM OF PIE?

Pie, as we understand it, usually means some kind of fruit seasoned and baked in paste spread out uponp lates. We also have meat pies of various kinds, but these are not what we understand by the generic term "pie." The peculiarity which recommends it to our taste is the combination of the fruit with the cereal, seasoning the latter with its agreeable juices and flavors. The fruit is certainly *the* great attraction. People seldom complain that there is too much fruit, though they do sometimes complain of the thickness of the crust. But why not take the cooked and seasoned fruit by itself? This we do sometimes, or rather we eat it with bread and butter, but when they are cooked together, there is formed a delicious sauce between them which we do not otherwise obtain, and pie is the shape in which we have learned to like it best. Something like it we get in fruit puddings and dumplings, and hence their charm; but they must be eaten hot, while pies can be eaten cold and be kept for days, or even for weeks.

The cooking of meats or fruits in paste is not a new device. Ancient Grecian and Roman cookery produced many kinds of pies. The Emperor Verus devised a pie, but it was filled with bacon and peacock, ham, pheasant, and wild boar's flesh, which could easily be vulgarized into pork pie. Some of their tarts were made of chestnuts, herbs, rose leaves, quinces, gourds, radishes,

cherries, elderberry flowers, and rice, and we have but to mention this variety to show that their cheesy tarts, whatever they might be, were not like ours, or they never more would think of making them of radishes or elderberry flowers. Their pastry was usually seasoned with cheese and honey, and their recipes much more frequently mention pepper and salt and rice than fruit. The general use of fruit in pastry seems to be of a much more recent date, and we are disposed to look upon it as one of the steps of progress in the preparation of food. We know this is not the prevalent opinion. Fruit cake and fruit puddings and dumplings and fruit pies are considered the most indigestible of all things; but why? Are they worse than meat pies or dumplings or the same puddings without the fruit? The fruit is good, but the flavor is usually peculiar, and in case of disturbance this flavor is sure to be recognized and its cause blamed. But certainly there is blame somewhere, and what is the cause of it? Not the cereal, it does not produce the same effect in bread; not the fruit, which can be eaten safely enough with bread and butter. What, then? There is one other constant ingredient, and that is the

"SHORTENING."

Now, if you but stop to think, you will find that nearly all the articles complained of are mixed more or less with lard or butter or "drippings," with some kind of greasy or oily substance which is cooked into it. This constitutes the shortening, and this does the mischief.

"Well, but," one objector will say, "I use only butter, and the best at that." Still, butter is grease. You recognize that a large proportion of it makes "very rich cake," which must be eaten sparingly, if at all. You know that your loaf of bread-cake or your plain pastry for the children has very little shortening, and this is your unconscious acknowledgment of its unwholesomeness. You may make your own butter and your own lard, or even work up your biscuits with cream or with olive oil, and not have them wholesome after all. So it is not in the animality of the thing, nor is it in the mere fact of its presence. Instead of working it into the dough and baking the fruit in it, you may spread the butter upon your bread and eat your seasoned fruit with it, and you will find the diet much less injurious.

Here you have exactly the same ingredients, but treated differently, and in that difference of treatment lies most of the difficulty. Let us examine the progress of fat through the alimentary canal.

IS FAT DIGESTIBLE?

The gastric juice seems to have no power over fat to change its character. This was Dr. Beaumont's conclusion after many observations of it in the stomach of St. Martin, and after repeated experiments with fat and gastric juice in vials. As to what really is done with it, physiologists differ. Some say that the bile is called in to dissolve it, after which it is reduced to chyme by the gastric juice. Others say that it is dissolved by the bile after leaving the stomach, when, of course, the gastric juice would have but little further influence over it. Most of them agree, however, in saying that it passes into the blood as fat, in extremely small particles, in an emulsion, but still as fat. As this is an important point, we will make quotations. Dr. Pereira says: "The first change which the animal fat suffers when swallowed, consists in its conversion into liquid oil by the warmth of the stomach. Very gradually this oil is converted into a creamy-looking chyme, containing myriads of oily globules, visible to the eye when aided by the microscope, so that the oil is, in fact, not in solution, but, like the butter in milk or the oil in an emulsion, is held in suspension merely." In this state it "becomes absorbed by the chyliferous vessels."—*Food and Diet.*

Letheby says: "Fatty matters are digested by the emulsifying action of the pancreatic fluid; and by thus being broken up into extremely minute globules, they are freely admitted into the lacteal vessels; in fact, the emulsified globules of fat are seen covering the villi of the intestines, penetrating their tissues and thus entering the lacteals." We see no *digestion* about this: it is fat still.

Brinton takes it for granted that some of it is digested; he does not explain how, but he makes a most important admission with

regard to the remainder. He says: "Only a small quantity of fatty matter can really be digested at a time, any excess over this amount in the food being merely expelled from the intestinal canal with the fæces."

Reasoning from the analogy afforded by the digestion of well-known foods, we should say, that if it were a food and could benefit the system as such, it must be actually changed into chyme. If it is still oil, not materially changed by the digestive fluids, as most if not all physiologists now allow, we fail to see how it can nourish the living system. Now let us see whether it does so. It will be observed that cats, rats, and mice, although they may stick their teeth into butter, lard, and suet, seldom eat much of them. Dogs and other animals upon which experiments have been tried, eat of them at first and then refuse them. In 1841 the Gelatine Commission of the French Academy of Sciences stated in a report to that body, that animals fed on fatty substance (fresh butter, lard, and the fat which surrounds the bullock's heart) refuse after some time to take this food, and ultimately die of inanition. During life they exhaled a strong fatty odor, and though dying of inanition, were in a remarkable state of *embonpoint*. On a post-mortem examination, all the tissues and organs were found infiltrated with fat."—*Pereira on Food and Diet.*

It is useless to argue that it must be nutritious or needed by the human system because man eats it so freely. We have learned that man makes use of upward of thirty kinds of poisons in different parts of the world in the gratification of his whims or desires. If we believed, as some do, that our instincts have led us to combine those substances whose ultimate elements are just what we need, we should not think it worth while to write much on the subject. But what shall we think of physiologists who write books to show that men have naturally drifted into the best possible habits of eating and drinking, while, as a race, the half of us are walking into our graves before we are five years old? And yet we can hardly find a physiology that does not justify the use of a great many hurtful things in this way. One such writer very elaborately and even pathetically affirms that fat is necessary to prevent children from a tendency to consumption. It seems he has not so much confidence in the correctness of their inclinations as those of their elders. He intimates that the leanness of growing children arises from their being allowed to object to the eating of fat. He says: "There is a perfect craze amidst children upon this head; to whatever due, it is most foolish and deleterious. The rule among children is to object to fat, and how the little rebels ever came to so unanimous a conclusion as now exists, it is difficult to say. It is painful to see children at table permitted to reject every particle of fat, and then too commonly, in time, compelled to take cod-liver oil, the fears of their parents restoring to them that firmness they should never have laid aside. Still more painful is it to know that the absurd caprice, if persisted in, will in all probability lead to such a condition as may result in tubercle." And much more of the same sort.

We have made these quotations to show that we are perfectly well aware that "the doctors" are against us. Almost without exception, the old school doctors insist on the necessity of eating fat. And this in spite of their utter failure to prove it nutritious, and their own showing that animals can not live on it. But they have a way of getting around this, as they do some other things, by saying that though it may not be food itself, it gives a relish and aids the digestion of other food.

FAT AS A RELISH.

As to the relish, that depends on the taste. Children, as we have seen, relish their food better without it than with it. We are inclined to consider it a coarse taste which likes everything swimming in fat. There are large sections of country where this is not the case, and we have partaken of many delicate and delicious dishes which do not contain the ingredient. Our purest natural foods, the fruits, do not usually contain it, while our grains and our nuts, which have oils of their own, have them in forms so different from animal oils that their similarity is hardly recognized by the taste.

AS AN AID TO DIGESTION

the matter is well worthy of attention, for in this lies one of its greatest objections. We have seen that the gastric juice seems to have no power over the fat itself. Now if this is the case with fat, which floats free in the stomach, surrounded by the gastric fluid, much more would it be so with fat which is coated over or cooked into other substances, as in the case of shortened and fried articles of food. Still further, if the gastric juice can not dissolve this fat, how is it to gain access to the food associated with it in order to digest that? This is no merely theoretical difficulty. It is one that lies at the root of a large proportion of the indigestion and dyspepsia that afflict our "good livers." The difficulty is plain, and the dividing line is well-defined, and yet the physiologists have most of them hitherto failed to see it. Pereira does enumerate many shortened, fried, and greasy dishes as unsuited for dyspeptics, but he fails to point out how this cooking of fat into cereal and fibrous matters makes them difficult of digestion. He alleges that the difficulty is caused by some supposed chemical change to which cooking gives rise in the fat itself. We have seen that the very same ingredients which we eat with comparative safety in bread and butter and sweetened fruit sauce, when cooked together in a pie are far more difficult of digestion. Now if drippings (a kind of fat falling from roast meat, and which has attained the position of a distinct mention in English cookery) or lard or oleomargarine be substituted for butter, they prove nearly if not quite as digestible, although the drippings and the lard have been cooked, and the oleomargarine has been "processed" beyond our knowledge. The difficulty is simple, and lies in the hinderance made to the entrance of the gastric juice by the fat into substances which it has coated over and permeated. Let our cooks once understand this principle and they will find it a very great help in the preparation of wholesome food. They will see why puff paste, whether made into pies, puddings, dumplings or tarts, must necessarily be hurtful. They will see why melted butter is more obnoxious than the unmelted, because it becomes more intimately associated with the food to which it prevents the free access of the gastric juice. They will not only see why fried potatoes are so very indigestible when allowed to soak up much fat, but why in any case there is quite too much fried surface to be really wholesome. They will see why they should not drop a speck of butter into each gem tin, why, indeed, they should keep their gem pans in such condition that they scarce need oiling at all; and why oilstone griddles are so desirable, if they are going to use griddle-cakes at all. They will see why cake is hurtful, almost without exception. And if they will consider that the yolk of an egg has a large ingredient of oil (and that the hard-cooked white is quite as indigestible for another reason), they will see why they should not use eggs instead of shortening, or incorporate them with their long-cooked dishes at all. And if they will take into consideration that in all the features hitherto considered, vegetable oils are nearly if not quite as objectionable as animal oils, they will not try to find substitutes in that direction, as our English friends are doing. There may be reasons (which we will consider soon) why the vegetable oils are less objectionable than the animal, but we have yet to find any kind of oil with which fibrous or cereal matters can be shortened or in which they can be fried without interfering with their digestibility.

Yes, we know this makes a pretty clean sweep of the baker's counter, and, I am sorry to say, of a large share of the dishes on most private and public tables. But if our readers for the last five years or more have followed our numerous recipes, they are not at a loss for dishes entirely free from shortening in any shape. Moreover, if it will make an equally clean sweep of the dyspepsias, many an unhappy man will (perhaps) be willing to forego his customary toothsome dose of misery.

NEW DISHES.

We would specially advise the cooks to be brave, and strike out for entirely new dishes, rather than to reduce gradually the shortening in the accustomed dishes. That will only spoil their taste and cause discontent. Better put them away entirely, one

by one (if not all at once), and forget them, while you bring on something entirely different to take their place. Use, for example, fruit and cereal puddings, instead of pies. These combine the elements first mentioned, as the charm of the pie, without its hurtful ingredient, the shortened paste. It is true that a vitiated taste will crave the missing fat at first, but doing away with it will bring a much keener and more delicate taste and a better appetite, and the food will be enjoyed without the fat more than it ever was with it.

But it is not best to make too many changes at once, unless the case be desperate, and such cases we do not treat here. They require special medical prescription. We deal in these columns, or intend to, mostly with the common family diet, and we wish to make it conducive to the best interests of the family. So in putting aside shortened food, it may not be advisable to put away butter also at first. If eaten cold upon bread, it does not interfere with digestion as when cooked into the food. It is true we have very little to say in its favor. If it is not digested, it can not be nutritious, and we have innumerable cases where it causes such impurity as shows itself in pimples and blotches, if nothing more.

In the varied and interesting aspects of the case, we have come near forgetting our neighbor's

ENGLISH PLUM-PUDDING.

We are ready now to look it fairly in the face. It is shortened invariably with suet, which has the advantage simply of not sending its oil into all the surrounding cereal until the latter has been somewhat swelled and cooked with heat. Therefore it is not so hard and heavy as it would be if shortened with a more oily substance. Of course, then, the gastric juice does not have quite so much difficulty in penetrating its substance. But any boiled dough is almost invariably tougher and more difficult of division than that which is baked. There is nothing worse, we believe, except frying. English plum-puddings are proverbially indigestible, and we suspect the only reason why they are not even more complained of than American pie, is that the English are a little more deliberate in their mastication than the Americans. If plum-pudding were common here, doubtless we should die of it more extensively than we do of pie. Juvenile English literature is full of the wails that arise from "too much plum-pudding," which implies insufficient mastication.

The English have dishes that are worse than pie or plum-pudding, and some that are great favorites too. Among these the

YORKSHIRE PUDDING

stands pre-eminent. We should not call it a pudding at all. It is made with eggs and milk and flour into a stiff batter, sometimes baked in the oven for a while and then set down under the roasted meat to become saturated with the dripping. It is then served with the meat, and sometimes even placed under it on the platter. This is as bad as fried doughnuts saturated with grease. We can hardly imagine anything worse which is considered digestible at all.

There is much more that could be said, and which we would like to say on this whole subject, but will make only a point or two more, and leave it for the thought and reflection of our readers, for with all we might say they will not master it until they have thought and discussed and read about it for themselves.

The physiologists who insist that fat is so necessary for us, do not seem to consistently allow for the fact that the best fat-forming substances are purely vegetable. The fat hog and ox and goose do not obtain their fat from animal food. The carnivora that eat more fat are much more lean. Still less do they consider

THE NATURE OF ANIMAL FAT.

They take it for granted that it is food when they can not prove that it is digested or can nourish and keep in life the animal system, and in face of the fact that in experiment it does not. They *say* it is used as food in the absence of fresh supplies, but experience shows that a lean man will endure starving better than a fat man.

FAT IS DEAD MATTER.

Liebig says: "The abnormal condition which causes the deposit of fat in the animal body, depends on a disproportion be-

tween the quantity of carbon in the food and that of oxygen absorbed by the skin and lungs." And again: "The production of fat is always a consequence of a deficient supply of oxygen." So when animals are fed with cereals, which contain much carbon, and are restrained from exercise, by which they take in much oxygen, they are not able to dispose of the carbon. It falls lifeless and must be tucked away in the most convenient place, or else it will so befoul the blood as to cause congestion and immediate disease. The cellular tissue proves to be this convenient place, where it remains well tolerated until the animal has a chance by exercise or starvation to throw it off. But if the quantity be increased beyond what can be thus disposed of, it interferes with vital processes to such a degree as frequently to cause disease and death. Many fattened animals are almost ready to die with disease, as their livers show, and human beings thus troubled die of dropsy, apoplexy, and fatty degeneration of the vitals.

Another proof that fat is dead matter is found in the curious fact, that under some conditions of decay, muscle and other animal tissue changes into fat. Brinton thus learnedly puts it: "Formed within the sarcolemma by the regressive metamorphosis of the muscular substance, or sarcode." Instances of this we see in paralytic limbs half dead, where the impression of the finger produces a white spot which very slowly regains its natural color. Post-mortem dissection shows that these muscles have been undergoing more or less this regressive metamorphosis, and that they are more or less fat. A still stronger proof is found in a similar change in the muscles of dead bodies buried under circumstances which prevent their decay. The flesh gradually turns into this peculiar fatty substance. That there is a little fat in the system, which seems to be needed as a cushion, for example, in the orbit of the eye and the soles of the feet, is admitted; some say in the nerves and brain also; though we are not well acquainted with the nature of these substances. But in case of the great animal adipose tissue which we use in cooking and as fat meat, we think the facts which have passed under our review strongly indicate that it is dead matter, and this is sufficient to account for its lack of nutrition and its entire unsuitability for food. JULIA COLMAN.

AN OLD MILLER ON WHEAT AS FOOD.

As time goes on, more and more testimony is added to the long array which supports the opinion of hygienists with regard to food. Most of this testimony comes now from unhygienic sources, from men and women whose practical experience, perhaps covering a long life, is embodied in it. Now, for instance, we have the statement of an old farmer regarding the value of wheat in different forms of preparation as food. Mr. R. Moody, of Maine, writes to the New York *Tribune* as follows: "On farms that have been cropped many years, and have not been supplied with enough of the proper kind of plant food to perfect the growth, wheat is much inferior in quality as well as in quantity to what it was half a century ago. Fifty-five or fifty-six years since, I began flouring wheat in this place, and am now doing the same (at seventy-two years of age), and can see a marked decline in the condition of the grain as it is brought to the mill; but I have never seen or heard of any process by which I thought flour from any quality of wheat could be improved further than to free it from all foreign substance, and clean perfectly the exterior of the wheat; then if the wheat is perfected in growth and well cared for, it is, when well ground and bolted, fit food for man, but better if not bolted or sifted at all. I think fresh ground the best; age will whiten the flour, but all improvement in whiteness (if it is an improvement) causes corresponding depreciation in strength. And yet the present strife among millers seems to be to ascertain who shall lead in making the whitest flour, and especially the whitest from the middlings. The result is that the manufacturer who makes the whitest from sound and clean grain deprives the consumer of the most life-sustaining elements. The manu-

facturers spend millions in improved machinery to divest the flour of its most essential parts, which the consumers have to pay twice dearly for; first, the great cost of machinery in cash; second, and most essential, the enervating condition of the physical system, which in these days is not over-taxed with nerve-food or sunlight. But so long as the eyes of the masses are their gods, I presume they will subject both the inner and outer man to all kinds of torture for this visionary gratification."

A NEW "REMEDY" FOR DROPSY.—Some of the medical organs announce a discovery which appears to us like a return to the barbaric practices of mediæval time. We are told that in Russia the common cockroach is a favorite popular remedy for dropsy. Dr. P. Bogomolow, of St. Petersburg, has lately examined its effects in nine cases of Bright's disease, heart disease, and other affections accompanied with severe dropsy, and the result was uniform in each case, as the following: There was an increase in the secretion of the urine and perspiration, with rapid disappearance of œdema, and also almost complete disappearance from the urine of albumen and renal derivatives. The dose was from five to ten grains of the powdered cockroaches in the twenty-four hours, but they were administered as a tincture and as an infusion. These insects do not, like cantharides, produce any irritant action on the kidneys. Dr. Bogomolow has succeeded in extracting from them a crystalline body which he calls anthiydropin, and which is their active principle.

RECORD OF SCIENTIFIC DISCOVERY.

A Question in Optics.—EDITOR PHRENOLOGICAL JOURNAL: I am a little surprised that Mr. Fairfield should still maintain that the two statements which he made and which I called in question, are accurate. That he might have made a slip of the pen or memory in the first place is supposable; that he should maintain the truth of such obviously erroneous views after his attention had been called thereto is, to say the least, extraordinary.

Mr. Fairfield's propositions are as follows:

1. "When a ray of light passes from a refracting medium of lesser into one of greater density, it enters the latter at right angles to the plane of its surface." And

2. "If a sphere of solid glass is fitted into an aperture in a dark screen, and the light of a gas jet is directed upon it, each ray is refracted toward the center of the sphere; and as all the rays meet at that point, a perfect representation of the jet is presented within the ball."

It was to these two propositions, as laid down and figured out by Mr. Fairfield, that I took exception. I did not then, and do not now, concern myself with the question as to the shape of the blood-corpuscle. It will be time enough to attack the latter question when the elementary optical problems have been settled. That these two propositions are radically and entirely erroneous must be so well known by every careful student of optics that it seems like a waste of time and of your valuable space to refute them; but since they have found their way into your pages it may not be out of place to set those whom Mr. Fairfield is very fond of calling "lay" readers right.

The questions in dispute may be decided in one of two ways: We may give a mathematical and experimental demonstration of them, or we may call in the evidence of some well-known and generally recognized authority. Of such authorities there are scores—all easily accessible to the readers of your JOURNAL, and therefore why Mr. Fairfield should refer to a German book and one somewhat difficult of access to most of your readers, I confess myself unable to understand. Some one of the works of Brewster, Carpenter, Hogg, Deschanel, Frey, Silliman, Ganot, Draper, Quekett, and dozens of others may be found in any library or any book-store; and as they are in English, they can be generally understood. *Das Microskop*, by Nägeli und Schwendenner, is in German, and there are probably not over a hundred copies in the United States. As an early copy of the last edition reached me, I am somewhat familiar with its contents; and what will your readers think when I tell them that it does not at all touch upon the questions at issue! The authors devote scarcely any space to elementary optics and do not treat of blood corpuscles at all, the work being almost wholly occupied with the applications of the microscope to botany!

The first proposition of Mr. Fairfield is that a ray of light passing from a refracting medium of lesser into one of greater density, enters the latter at right angles to the plane of its surface, and he figures the rays of light reflected from the mirror impingeing on the

slide and cover, and passing through both at right angles. The accompanying figure 1 was originally given by Ross to illustrate the course of the rays, OTR and O′T′R′ through the thin glass, G G G G, usually employed to cover microscopic objects. It will be seen that they do not pass through the glass at right angles; in short, that they obey a law very different from that laid down in words and figured out by Mr. Fairfield in your July

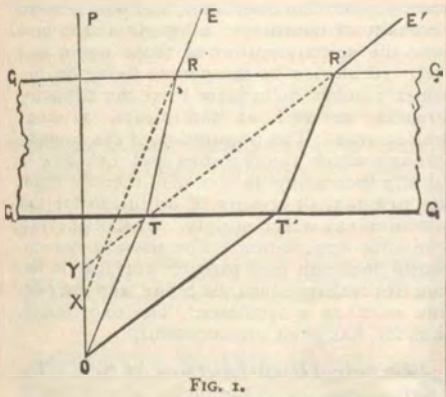


FIG. 1.

issue. The figure given above has been accepted as correct by Carpenter, Brewster, Hogg, Pelletan, and a host of others, including Nägeli and Schwendenner, in whose work it appears as Fig. 26. How Mr. Fairfield could, in the face of this fact, claim that the work of these eminent microscopists "shows the soundness of his position," I can not understand. Mr. Fairfield, in his first article, figured very definitely what he supposed to be the course of the rays through a sphere of glass or blood. The accompanying figure 2 gives the course of the rays through a sphere of glass as laid down by Sir David Brewster. It is an accurate transfer of figure 26 of the American edition of his Treatise on Optics, which is very common. Here it will be seen that the rays H R and H′ R′ instead of meeting at the center meet beyond the sphere at F, the distance of which is equal to the radius, and Brewster tells us further that if the sphere were one inch in diameter and made of the following substances, the focal distances (that is, the point at which the rays would meet) would be as follows:

INDEX OF REFRACTION.	DISTANCE OF THE FOCUS FROM THE SPHERE.
Tabasheer, 1.11145	4 inches.
Water, 1.3358	1 "
Glass, 1.500	½ "
Zircon, 2.000	0 "

And it is only in the case of spheres made of diamond or some substance having an index of refraction higher than 2.000 that the focus falls within the sphere.

It is a noticeable feature of Mr. Fairfield's writings that he constantly speaks of "my (his) best glasses" and refers, as in his recent article in the New York *Sun*, to his long experience and great skill with the microscope. And in view of all this he pronounces my experiment with the thermometer bulb "clumsy and inexact boy's play." Now Mr. Fairfield should remember that other people probably have glasses quite as good as those in his possession. I have some very excellent ones myself by some of the best makers in the world; but I am sorry to be obliged to think that all your readers are not provided with good compound microscopes. I therefore selected an experiment which any boy, however "clumsy and inexact," could try. It was no less an authority than the great Faraday, who said on one occassion, "I like a boy's experiment." Mr. Fairfield seems to like experiments which are so complicated that I am very sure he does not undersand them. My proposition and the experiment to prove it are simple, direct, exact, and easily repeated. The proposition is this: If the focus of a sphere is at its center, then it must be impossible for us to see any object through a sphere, for if the rays emerge as figured by Mr. Fairfield, they scatter in every direction and can not afterward possibly unite to form an image. But spheres of glass *do* form images, and make the best simple microscopes we have, for a well-made Coddington lens is a perfect sphere, at least so far as its acting surfaces are concerned. Every one has seen those spherical glass watch-charms that are so common. They form excellent magnifiers. The bulb of a broken thermometer, filled with water, makes an excellent magnifier—better than any of the fifty-cent microscopes so freely advertised, and its focus is certainly not at its center.

In discussing the question of the relation of the radius of curvature to the focal length of a lens, Mr. Fairfield seems to be ignorant of the fact that in the usual theoretical disquisitions on this subject, the *thickness* of the lens is not considered in the first approximation, as is distinctly stated in Potter's Optics, page 73. In the case of lenses of long focus, like spectacle glasses, the thickness of the lens has but slight influence; in the case of a lens having the form of a sphere, the thickness exerts a sufficient influence to move the focus from the center to a point outside of

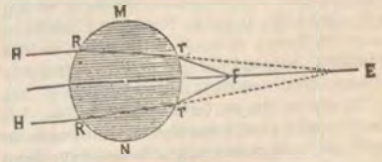


FIG. 2.

the sphere, provided the index of refraction does not exceed 1.999. I am sorry to be obliged to believe that Mr. Fairfield is in error when he assumes that every boy of twelve understands these things or that the principles of the compound microscope are familiar to "men rudimentarily acquainted with science." My experience is that very few of the ordinarily intelligent and well educated persons that we meet are able

to trace the course of the rays through a lens and give the proper angles due to the refractive indices of the various substances under consideration. Indeed, very few of those who have received a scientific education are able to do it. This being the case, perhaps the space that we have occupied in discussing these questions has not been altogether wasted. JOHN PHIN.

Researches of Last Year.—Forty-ve scientific expeditions were fitted out during the year 1876. Of these, twenty-four had their field in Europe, seven in Africa, five in America, and two in Oceanica. The objects of the researches included archæology, natural history, anthropology, medicine, statistics, comparative legislation, comparative history of religions, philosophy, geography, geodesy, and astronomy. In addition, organized researches were also made among archives and in libraries.

A Polar Colony.—Captain Howgate, an officer in the American Signal Corps, has proposed an expedition having in view the establishment of a colony at an accessible point in the Arctic regions, which may constitute a base for a series of attempts to attain the pole. This expedition has already been arranged, Captain Tyson of Polaris fame being the commander.

Some years ago it was suggested through the columns of THE PHRENOLOGICAL JOURNAL that the only feasible method by which the North Pole could be reached, would be by a chain of settlements where supplies might be accumulated and protection and support afforded expeditionary parties.

A Correspondent of an English journal, writing of his visit to Pompeii, after a long interval, comments upon the progress of excavations there. He says that about two-fifths of the city have already been disinterred, and the excavations are now being carried on by an average number of one hundred men, toward the east or north-east. To the museum fresh bodies, or their forms in plaster of Paris, are constantly added. He writes: "Years have passed since I was present at the first ingenious experiment which was made by the present Senator Fiorelli to recover the forms at least of the dead, so that it is with no slight interest that I regard any progress, and considerable progress has been made in the mode of preservation. It often happens that, from the superincumbent weight and other causes, the bones have been displaced—these are now removed from the *débris* as far as possible, so that the figure is not deformed by bones protruding from wrong places. This was first attempted in 1873, and has been continued ever since with great success. Perhaps the most beautiful figure in the collection is that of a young girl, exquisitely formed; she is lying on her face, while her hand was evidently attempting to cover her eyes. The folds of her dress, the very texture, and her hair, are all sharply defined. Near her lay, and lies, a man on his back, and by his side was, and is, an iron rod, four feet long, with which it is supposed he was forcing a road. Close by is another female figure, with iron sandals attached to the feet, the bones of which are well preserved."

River-Water Pollution.—Major Frank Bolton, the London water examiner, states in his monthly report that the deterioration of the waters of the Thames and Lea by sewage pollution continues, and points to the necessity of measures being adopted to prevent the contamination of those rivers and their tributaries by the people living on the upper reaches, who now treat the tributary streams, as well as the rivers, as common sewers. The population of the country through which the Thames and Lea flow is rapidly increasing in density, thereby tending to establish centers of pollution for the metropolitan water supply. Paris is having a similar experience. The sewage has recently been run into vats for purification before its discharge into the Seine, and the residue used as a fertilizer. The experiment, thus far, has been unsuccessful.

Electric Illumination at Sea.—The English iron-clad *Alexandria*, supposed to be the finest afloat, has an electric lamp attached to its foremast. The *Polytechnic* says the cost of the lamp and the necessary electric apparatus was £1,000, a sum which seems enormous at first, but does not appear so very extravagant when we reflect that it is purposed to protect a ship the insurance of which amounts to £600,000. The electric light serves two purposes: first, as a beacon light to point out dangerous reefs of rock or sand; and second, as a protection against torpedo boats. The light is thrown out from all sides of the lamp, and illuminates such a large surface of the water that it would be almost impossible for a torpedo boat to approach without detection; especially as the light falling upon the smoke would suffer such refraction as to make the boat's existence even more apparent than if the light had but fallen on its surface. This latter function of the electric light is very important, since ships have heretofore found no protection against the attacks of the torpedo boat.

A New Property of Oxygen.—Recent investigations, according to the *Journal of Chemistry*, have disclosed the singular fact that oxygen under high pressure rapidly destroys all living beings and organic compounds. All varied phenomena of fermentation, in which the chemical action depends upon the presence of living organisms, are completely arrested by the action of compressed oxygen, even if exerted for only a brief time; while fermentations due to dissolved matter, like diastase, perfectly resist the influence. M. Bert, to whom this curious discovery is due, has found a practical application of it in the field of physiological research. The ripening of fruits is arrested by

exposure to compressed oxygen, and hence it must arise from cellular evolution. The poison of the scorpion, on the other hand, whether liquid, or dried and redissolved in water, entirely resists the action of the compressed gas. Such poisons evidently owe their power to chemical compounds akin to the vegetable alkaloids. Fresh vaccine matter, subjected for more than a week to oxygen under a pressure equal to fifty atmospheres, retained its virtue; from which it would appear that the active principle in vaccine matter is not certain living organisms or cells, as some have supposed. The virus of glanders, after similar treatment, quickly infected horses inoculated with it; and carbuncular blood, though freed from bacteria, was found to retain its dangerous properties after the same test. These must, therefore, be put in the same class with vaccine matter. If these results are confirmed by further investigations, the discovery is certainly a most important one, and will lead to the settlement of many disputed questions in physiological chemistry.

AGRICULTURAL HINTS.

[The mind is the man. Farming, in the highest sense, is not simply doing the hard work necessary. This can be done by muscle when directed by brains. The true farmer is he who can plan, direct, and control skillfully.]

As this department is one which should contain the most recent gleanings of wisdom and experience, our readers and friends in the rural districts are invited to send us any items of value to agriculturists in general, and which should have a wide circulation. Due credit will, in every case, be given to the contributor.

Killing Cut Worms.—A correspondent of the *Country Gentleman* thus advises on this point: "If the sod is turned early, say in February or March, let it stand until just before planting time, when it will have a good coat of green vegetation, which turned under will afford sufficient food for some time; and by the time the corn makes its appearance many of the worms will have become grown, and have left. They usually leave with the advent of warm weather. As a general thing they do but little damage, for they seldom cut a plant down below the bud, and it readily comes up again, and soon gets strong enough to withstand their ravages until hot weather. Your correspondent is mistaken, (?) I think, when he says that by ploughing early in the spring so that the ground freshly turned would freeze, he killed the worms. I have never experienced any benefit from this mode. In fact I believe freezing will kill few if any grubs already in a torpid state."

Different Birds as Insect Destroyers.—In 1858 Prof. Jenks devoted a season to determining the character of the robin. He found that in March, April, and May, their whole food was insectivorous; from the last of June till October the robin's stomach contained both insects and berries; and after July their diet was mostly grasshoppers. This for Massachusetts: Prof. Treadwell, of Cambridge, demonstrated that each young robin ate to exceed his own weight each day. As during the nesting season in spring, their chief article of food is the cutworm, we can realize in part what a benefit the robin is to agriculture. Indeed the onion, cabbage, and radish crops are almost dependent on birds for their successful culture, as during seasons when birds are scarce the caterpillar is unusually destructive.

The oriole, or golden robin, feeds on the curculio. The cat-bird seeks the grubs of the May beetle and the tent caterpillar; and according to Dr. Kirtland, a flock of jays taking up their residence in a clump of evergreens near his garden, cleaned the whole neighborhood of this obnoxious caterpillar.

Fowl Crossing for Profit.—In the spring purchase a bright, healthy young cockerel of pure blood and one of the small breeds—such as Leghorn, Hamburg, Game, or Dorking. Put him with twelve to twenty common or pure-blooded hens of the large breeds—Cochin, Brahma, etc.—and with due care and attention you will have chickens which will not be excelled by any either for eating or laying. I am acquainted with a large number of eminent poulterers in Massachusetts who have tried this plan, and every one of them pronounces it to be superior to any other they have ever tried for producing eggs. If care is taken in the selection of the stock, great beauty may be obtained in the progeny—for example, by putting a brown Leghorn cockerel with buff Cochin hens, or a white Dorking cockerel with white Cochin hens. My own choice is a brown Leghorn cock with black Cochin hens. The progeny from these will have black bodies from the hens, and neck and comb from the male bird; but either of these crosses are equally good if the distinctions I have noted are observed.

Grain Production.—Europe produces now on an average 5,000,000,000 bushels, of which Russia produces one-third, Germany and France 520,000,000 bushels each, and Austria, 500,000,000. The United States produces 1,600,000,000 bushels, or about the same as Russia. In order, however, to appreciate the advantage of the United States, the population should be taken into account, this is, for the United States, 40,000,000, and therefore we produce forty bushels per head; while Europe, with a population of not quite 300,000,000, produces only sixteen bushels per head, Russia twenty-six bushels per head, and Great Britain only four bushels per head. As the average quanti-

ty of grain consumed per head is fifteen bushels, we produce three times as much as we want, Russia scarcely twice its wants, Europe on an average all needed, but Great Britain not much over one-fourth. It will be seen that the general production far surpasses the consumption, but this excess is absorbed by breweries and distilleries all over the world, which do more to keep up breadstuffs at a high figure than anything else.—*Manufacturer and Builder.*

Floor Paint.—There is but one paint suitable for floors, and this is French ochre. First, if the boards have shrunk, clean out the joints well, and with a small brush give a heavy coat of boiled linseed oil, then putty up solid. Now paint the whole floor with a mixture of much oil and little ochre for the first coat, then, after it is well dried, give two more coats of much ochre and little oil, finally finish with a coat of first-rate copal varnish. This is an extremely durable paint for floors, in-doors or out, such as verandas, porticoes, and the like. A floor stain is best mixed with oil and finally varnished.

To Prepare Vegetable Mould.—As early in November as the leaves of trees can be collected, let them be brought in a considerable quantity, into a close place, and dressed up there in the form of a hot-bed. Let this be well saturated with the drainings from the dung-heap, with suds from the wash-house, with urine from the stable and cow-house, where this latter article can be procured. Let this bed or heap be covered and lined with fresh stable dung, to make it heat. When the heat is sufficiently subsided, let the leaves be uncovered and turned over, to mix the dry and the wet well together, and if moisture be required, let them have it of the same description, repeating the process till all be reduced to fine mould. This will be ready for use in two months from the time of collecting the leaves, and to prevent any waste of the liquid recommended, a layer of maiden earth, of two feet thick, should be made the substratum, which would receive any of the valuable liquid that would otherwise run to waste. Leaves of slow decomposition should be avoided, as those of the oak, etc., which, however, are the best for retaining heat in hot-beds and pits. The leaves of Fir should also be avoided, but those of the Sycamore, Elm, Alder, Maple, and all the soft kinds are better suited for the purpose. This compost should be kept dry, in an airy place, and ridged up, so that the rain can not wash out the salts with which it abounds.—*Gardener's Record.*

Cheap and Easy Drainage.—There is in use in some parts of the country a very cheap and practical method of underdrainage, which farmers properly circumstanced can employ to advantage, but which is seldom mentioned in the agricultural papers. The plan is most effectually adopted wherever, at a depth of a few, or perhaps several feet, a strata of clay or hard-pan, through which water will not penetrate, overlies gravel, or other porous substance, when, if a shaft is dug through the clay formation and into the gravel or sand below it, a vast amount of water will find a natural subterranean and perfect outlet at a very light expense. Several members have stated at the Batavia Farmers' Club that in instances where they found a low place on their land, where water was inclined to stand, they, in a dry time, dug a hole, as for a well, down through this clay, then filled the hole with any refuse stone and removed the excavated earth so as to let the drainage into this pit, and after that no water was ever seen standing there any more. The same plan was practiced in Batavia village, where, on Main Street, water in wet times had flooded the surface for rods, and it was thought to be a difficult and expensive job to properly drain it away; but as the corporation extended it chose for Street Commissioner a farmer who had practiced the method described, and he had a hole sunk at the lowest point on each side of the street, which, after filling with stone and leveling, secured the perfect drainage desired. Thus, at an expense of a few dollars only, was obtained a result which it might easily have cost a few hundred dollars to have effected in any other way.—*Tribune.*

Why not?—Our scientists tell us that after all there is not so much difference between animal and vegetable life as some think. We know that even in one generation a half-starved animal will deteriorate, and that three or four generations of such treatment will dwarf and decrease any race of animals. Is it not probable that, under the same or similar circumstances, grain will deteriorate not only in quantity, but also in quality? If the crop is supplied with the proper kind of food, properly worked and cared for, we do not believe that it will deteriorate any more than an animal. We know of instances where the same corn has been cultivated for thirty years on the same farm, and still, so far from deteriorating, has increased in production and value. It is a firm belief with many (and facts seem to support it) that seed taken from a thin, barren soil, and planted in a rich and productive one, will produce better than seed which had been grown there for several generations.

Improved Mortar.—A French authority recommends the use of sawdust instead of hair in mortar to prevent its peeling off. His own house, exposed to prolonged storms on the sea coast, had patches of mortar to be renewed every spring, and after trying, without effect, a number of substitutes, he found sawdust perfectly satisfactory. It was first thoroughly dried and sifted through an ordinary grain sieve, to remove the larger particles. The mortar was made by mixing one part cement, two lime, two sawdust, and five sharp sand, the sawdust being first well mixed dry with the cement and sand.



MRS. C. FOWLER WELLS, *Proprietor.*
H. S. DRAYTON, A.M., *Editor.* N. SIZER, *Associate.*

NEW YORK,
NOVEMBER, 1877.

PERSONAL INDEBTEDNESS.

CABINET COLLOQUY, NO. V.

DURING the early hours of one of those close, muggy days, which we New Yorkers experienced near the middle of last September, a gentleman called at our rooms and introduced himself as an old reader of the PHRENOLOGICAL. We, of course, bade him welcome, and accompanied him in a survey of our Cabinet and rooms. In the course of the interview he remarked:

"I think it just on my part to say that I owe my condition, what I am to-day, to the teachings of your JOURNAL. I took it for upward of fourteen years, read it carefully, studied it, depended upon it for advice and instruction, and endeavored to follow its excellent teaching. It cleared up many of my doubts; it gave me new views of life, suggested new ways of thought and life, and stimulated me to effort in directions which I wouldn't have thought of, had I not been a reader. I will say this of myself—for I feel my indebtedness—but I am almost ashamed to say, however, that on account of my business compelling me to travel a good deal, I have not taken it for two or three years past."

"You have a family?" we inquired.

"Yes."

"Then why not give them the benefit of the reading which has profited you so much?"

"I have certainly thought of re-subscribing, but somehow or other neglected to do it. But shall do so."

"Do you not think, sir, that such work as the PHRENOLOGICAL JOURNAL is carrying on should be supported?"

"Most assuredly. I can think of no other enterprise better calculated to improve the moral and intellectual condition of society. It is everything that is philanthropic."

"Then, my friend, why should we not look to such as you, who so heartily acknowledge personal benefit through its instrumentality, for aid and coöperation in carrying on its good work?"

"You are indeed right, and my negligence deserves reproof. How much disposed we are, we busy men, to grab all the good we can get and forget the source of it!"

"Not so much that, I think. You subscribed and paid for the copies of the magazine—a business transaction—and you were warranted in making what use you pleased of the reading material it contained. You were wise enough to see and appreciate the merits of it. But you probably did not think of extending to others its advantages. In the activity of your business life you may have had little time to spare."

"That was the case, sir. But I might have exhibited a more generous spirit. I did often speak of the work you phrenologists were doing as reformers, but did not take any pains to bring it to the knowledge of others. Now I see that I have been derelict in my duty as a man and a father. What more easy than placing an earnest advocate of truth, like your JOURNAL, in the hands of a young man or woman!"

"We should be glad to have the ability to supply the youth of America with it."

"May you obtain the ability," said our visitor. "Nothing would be productive of more substantial good. I shall do what I can to further the end."

A few hours later in the same day a Southern gentleman dropped in and leisurely made the tour of our office. On greeting him, he said, "I am Mr. M—, of ——, an old subscriber, as you will see by reference to your books. I have been a reader of the JOURNAL many years, and would as soon think of giving up my dinner as doing without it. My family look for its coming every month, and would have it published oftener if they had their way. Besides, I have caused it to be sent to one or two relations, who also prize it very highly."

Of course, this visitor interested us deeply, and we entered into a free discussion of the present *status* of Phrenology and the prospects of the PHRENOLOGICAL, and after a half hour's interview, which we trust proved as refreshing and edifying to this worthy man as it did to us, he took his leave.

Not long ago one of the leading religious weeklies of our city took occasion, in a reply to a correspondent, to depreciate the value and utility of Phrenology, and made use of somewhat caustic language. We are not given to boasting, but so far as the accomplishment of solid practical good to society is concerned, we are ready to compare the record of the PHRENOLOGICAL JOURNAL during its thirty-nine years' career with the record of that weekly. The visitors, of whose statements we have just given an abridgment, are both gentlemen of high respectability and in Christian connections, and are but two, of hundreds like them, who have borne witness to the worthiness of the teachings of Phrenology.

RIFLE SHOOTING.

THE recent shooting match between the English and American teams resulted, as every one knows, in a victory for the Americans, with better scores for both sides than had ever before been made at an international match. We will confess to some interest in this sort of sport, because we discern in it features of real excellence. Unlike horse-racing or base-ball playing, it brings into activity higher faculties of the mind, and affords a kind of training which has thus far proved valuable to our young men, and is not without a good influence upon the political relations subsisting between England and the United States.

The young men who derive the most benefit are of that well-to-do class that can afford to indulge their taste for amusement and recreation almost at their pleasure. These young men of fortune, attracted by the éclat of successful marksmanship, soon find on trial that weak nerves, feeble muscles, a disordered digestion, are incompatible with a good score, and therefore that the practices of eating, drinking, smoking, chewing, irregular sleeping, and doing that which conduces to physical exhaustion, unfit a man for excellence at the target. The easy self-poise, steady hand, unflinching eye, and endurance of a protracted contest are concomitants only of a good organization and a temperate life. When our young gentlemen, in their earnestness to succeed as riflemen, adopt the habits of temperance and frugality, they influence the entire community of young men, since those in the lower walks of society readily copy when they can the manners of the wealthy and privileged.

Besides this tendency to regulate the physical habits, the practice of rifle shooting affords a sort of intellectual training. It

sharpens the perception, contributes to directness and precision of thought, and brings out a man's practical talent. For these and similar reasons, that large class of persons which is ever on the watch to make capital of everything allied to popular recreation, can not so easily convert a shooting match into a gambling convenience, or an occasion for revelry and brawling. Betting and drinking have about destroyed the respectability of base-ball play, and the roughs who make betting and drinking the leading features of their life, have already endeavored to introduce their favorite practices into rifle shooting, but with little or no success among those practically interested in the sport.

A brief consideration of the men who figure most conspicuously as marksmen will satisfy almost any one with regard to the special organization which is at the basis of their proficiency. In them all there are an overhang and a breadth of brow which betoken large perceptive organs, and also an intensity and liveliness of eye-expression which indicate perceptive activity. Take the faces of Messrs. Hyde, Jewell, Allen, Lamb, Blydenburgh, and Gen. Dakin, of the Americans, and of Sir Henry Halford and Messrs. Milner, Rigby, Fergusson, and Gilder, of the British team, and one can not help being struck with their very marked development of the organs of Size, Weight, Locality, and Individuality. The massiveness of these organs imparts a deep-set, cavernous appearance to the eyes, which in nearly every instance are but moderate in size, indicating scarcely more than an average development of Language.

A study of the portraits of the gentlemen composing the British and American teams, published soon after the match in *Harper's Weekly*, with the assistance of the phrenological organology, will furnish any one desirous of seeing for himself the reasons for their excellence at the target. In the matter of temperament, the motive or muscular appears to predominate, the mental or nervous organism being next in conspicuity, while the vital is associated as an adjuvant to the muscular and nervous forces, and not as a master. The gentlemen we have named do not carry the signs of slavish subordination to any of the forms of appetite, while the most of them have the unmistakable expression of the sober and temperate life, and of the mental refinement coincident therewith.

RUSSELL T. TRALL, M.D.

ANOTHER friend of humanity, and one most active in the cause of reform, has suddenly left us. Dr. Russell T. Trall, the first exponent of practical Water-Cure, and for many years the recognized leader in hygienic and medical reforms, died in the night of the 23d of September. A few days previously he had taken cold while working in his garden at Florence Heights, N. J., but evidently deemed his indisposition of little moment, as he declined any treatment for its relief. Pneumonia supervened and with fatal result. The sad intelligence comes too late for us to make more than a brief mention of the occurrence in this number. In the next we shall publish an account of Dr. Trall's interesting career and accompany it with a portrait.

"AS A MAN THINKETH, SO IS HE."

THE intelligence of the period is becoming more and more impressed with the influence of hereditary traits, or, what is the same thing, special organization upon the character and life of men; a paragraph in the New York *Library Table* shows that our literature is becoming permeated with physiological truth, viz.:

"In the course of a very enlightened note on William F. Gill's 'Life of Edgar Allan Poe,' the *Atlantic Monthly* has some observations that are too eminently valuable to be left buried in magazine minion; and hence, without attempting any quotation, it is a pleasure to call popular attention to them. Mr. Howells briefly notes the predestination to misfortune that appears in Poe's career, and compares the American poet with the unfortunate Alfred de Musset as one of the most intimate parallels furnished by literary history. There is a deep pathos undoubtedly in such lives as Poe's—lives that seem doomed from the outset; but the pathos must not blind our judgment to the fact that the failure arises directly from inherent weakness. There is no truth more often forgotten than that fate is but a verbal symbol for one's own soul, and that the seeds of our misfortunes in the world are all within ourselves. A man's biography is but the record his soul leaves in its passage through the world. The contradiction in Poe's nature was that he had no conception of sincerity. Impulsive, passionate, wayward, he was an actor in everything he did, and his associates soon learned that his brilliant intellect was unguided by conscience."

This is but a graceful recognition of one of the fundamental principles of phrenological science, and for which its early teachers were reviled and stigmatized as atheists, infidels, and materialists, whereas they were only declaring the results of careful observation and the conclusions of the soundest practical philosophy.

A proper understanding of the principles of heredity will help to improve the mental and physical condition of society more than any other agency of human discovery.

DOESN'T NEED IT FOR STRENGTH.—Ahmed Mukhtar Pasha, who has shown the most ability as a commander in the Turkish army, is the idol of his troops. He lives very frugally, much as the common soldiers do; never eats flesh meat in his campaigns—the very time he should need it most, if it give strength to body or mind, one would think. Nor does he touch alcoholic beverages; and, strangest of all for a Turk, he does not smoke.

His dress, like his habits, is of the plainest. No wonder that he is a difficult subject for the Russians to handle.

SHOULD IT BE SO?

WE may not understand it, but when we read in the newspapers of men who have organized themselves into a society for the avowed purpose of promoting their special line of commercial operations—of course having in view their own personal convenience and profit—when we read of their assembling together and determining upon certain prices to be demanded for articles which take the chief places in the catalogue of human necessaries, we are inclined to think that such men would, if the opportunity were given them, store up the atmosphere and sell it by the foot, and now and then get into a wrangle among themselves on account of a "corner."

We have no protest to enter against dealers in corn, wheat, oats, potatoes, coal, wood, etc., associating for the purpose of facilitating their business operations by devising methods for the easy and quick transportation of the required supplies from the producer to the consumer. As society is constituted, there must be dealers, middlemen, to market the produce of the field, orchard, and mine, and for their labor they are entitled to a fair profit. But when such men concert to fix the prices of commodities with little consideration for the requirements of the consumer, we feel compelled to enter our most solemn objection.

We would make the sale of the neces-

saries of life as free as it were possible consistently with the sanitary welfare of the community, permitting, of course, the matter of prices to depend mainly upon the conditions of supply and demand. In the furtherance of this object we would have producer and consumer brought face to face, that each might learn the other's needs and interests, and make common cause for each other's benefit. A great part of the complaining which is heard on both sides is due to the lack of knowledge on each side of the other side's condition.

The tendency of our later civilization is toward an increased differentiation in the methods of trade as in the modes of education and association, and the distance between producer and consumer may grow wider and wider, with the increase of differentiations, yet so long as the mill and the market are readily accessible to both producer and consumer, they should not permit the dealer or middleman to exercise an almost absolute control over matters in which they are chiefly concerned.

THE LATE D. H. JACQUES.

THE announcement of the sudden death of this gentleman on the 25th of August was an occasion of deep regret to us and to all who had any acquaintance with him. He possessed a mind of superior tone and culture, a character distinguished for gentleness and sympathy. Early in life he gave attention to the pursuits of literature and contributed to different publications, besides writing and editing many volumes. His field of thought and effort was mainly that of popular education, and in it he—although perhaps little known by name to the population at large—exerted a wide-spread influence. His teaching has ever been characterized by purity of motive and clearness of method. For several years he was associated in the editorial conduct of the PHRENOLOGICAL JOURNAL, and while in this relation prepared the well-known "Handbooks for Home Improvement," the "Rural Manuals," and the admirable physiological treatise entitled "Physical Perfection." About ten years ago he left New York to assume the editorship of *The Rural Carolinian*, and in a short time made that new venture the representative agricultural organ of the South. A year or two since he retired to Fernandina, Fla., where he continued to pursue his literary and horticultural tastes, being the chief contributor to the *Semi-Tropical*, a live and influential magazine published at Jacksonville. Mr. Jacques was regarded in the Southern States as a leading authority in agricultural matters. He organized the Order of the Patrons of Husbandry in South Carolina, and was looked up to as one of its chief supporters.

GOOD LEGISLATION.

THE Aldermen of New York City have done a wise thing in voting an ordinance prohibitory of the miscellaneous practice of carrying pistols.

By the terms of this new regulation, persons taken into custody for disorderly conduct on whom a pistol of any kind is found, shall be fined or imprisoned, at the discretion of the Police Justice before whom the complaint is made, the fine not to exceed $100 or the imprisonment one hundred days. All respectable and law-abiding citizens who may need to carry such a weapon within the city limits must apply for a permit to the Police Superintendent.

If this ordinance be carried into effect with vigor, it will do much toward checking disorder and bloodshed among the

vicious and law-breaking classes. Many a ruffian would lose half his brutality by being deprived of his pistol; and most of the other half by being prevented from drinking whisky or other alcoholic poisons.

We would go further than this measure of the New York authorities, and prohibit absolutely the carrying of deadly weapons, the pistol and the dagger, except by the regularly constituted guardians of public order. No law-abiding, honest man cares to walk abroad with a revolver in his pocket, and rowdies and loafers should not be permitted to do so.

Our Mentorial Bureau.

[In this Department will be noticed such matters as are of interest to correspondents and to the general reader. Contributions for "What They Say" should be brief, pointed, and creamy, to secure publication.]

To Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY *will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.*

IF AN INQUIRY FAIL TO RECEIVE ATTENTION *within two months, the correspondent should repeat it; if not then published, the inquirer may conclude that an answer is withheld, for good reasons, by the editor.*

WE CANNOT UNDERTAKE TO RETURN UNAVAILABLE CONTRIBUTIONS *unless the necessary postage is provided by the writers. In all cases, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage—stamps being preferred. Anonymous letters will not be considered.*

THE MOUSE.—What faculty is it which enables a mouse to hide so quickly?

Answer: In the first place he has no Self-esteem, and therefore he has no dignity to consult in his movements; secondly, he has large Cautiousness, which makes him cowardly in reference to danger, which he desires to hide from; thirdly, he is so small, that ideas, such as he has, can go to his extremities quickly and set them in motion; and lastly, there is so little of him to hide that room to hide in is easily found.

FLAT-HEAD INDIANS.—The practice on the part of the Flat-head tribes of compressing the anterior part of the brain alters its contour, but no part of the brain can be said to be essentially impaired. The organs are only pushed out of their proper location or relation. The observer in considering the organization of the Flat-head, must take into account the unnatural practice. He could not, of course, consider the brain thus forcibly modified from the point of view of the natural or undisturbed organization. Allusion has been made to this subject in our columns from time to time. A few years ago an article of considerable length was devoted to it.

NERVOUS TREMOR.—M. T.—The trouble you speak of is by no means uncommon, especially in young men occupying office clerkships. You probably possess a good degree of Conscientiousness, Approbativeness, Cautiousness, without a sufficient quantity of Self-esteem to give you steadiness and full self-reliance. Endeavor in your trying situation to forget yourself, or the proximity of the employer. By doing your duty thoroughly, you will have no occasion for doubt or misgiving, and the consciousness of honest effort and the performance of duty will help you to meet this disagreeable imposition. We know that it is very trying to be watched, and we also know that straightforward conduct will offset in very great measure the susceptibility to excitement, and ultimately win the esteem of others.

WEAKNESS OF BACK—KIDNEY DISEASE.—It may be that your kidneys are somewhat affected; but we think that a careful, nutritious diet, abundance of sleep, and a good degree of out-door exercise will help to overcome it, even if there be an hereditary taint. If you could have a good hand-rub morning and night, it would help you. Perhaps much of your trouble arises from morbid thought. You probably entertain with too much anxiety the notion that you have inherited functional disease. If you could set aside all thought of this character it would be well. An out-door employment would be beneficial, and we would counsel a change of vocation in that behalf.

TELEGRAPHIC PARALYSIS.—E. A. H.—The communication from the *Journal of the Telegraph*, which you quote, sets forth a malady with

which we are familiar. We have had occasion once or twice to answer a correspondent with regard to it. The peculiar nature of the telegraphic employment induces the affection, and we can suggest no other course with a view to its cure or relief than an occasional withdrawal from such employment. The occupation being a sedentary one, with a partial yet constant use of a few muscles, imposes a considerable strain upon the nervous system. It appears to be a fact that we feel warranted in asserting, on the ground of our own observation, that those who are most likely to be affected by such a malady, make the best telegraphers on account of the predominance of the nervous temperament in their organization. It is this nervous excess which gives them the susceptibility requisite for skill in receiving dispatches and sending them.

ELECTRO-THERAPEUTICS.—H. F. H.—In most of the forms of nervous disease electrical treatment by the hands of a skillful operator is beneficial. In some forms electricity furnishes the only safe treatment, and cures have been accomplished which had been despaired of by any other process known to medicine. We do not approve the various devices to which you allude, regarding the claims in their behalf as unwarranted from a scientific point of view. As substitutes for drug medicines, we are certainly in favor of them, and if cures follow their use, we would place them to the credit of Faith.

EXERCISE.—During the summer, muscular exercise is best taken before the sun is high and exercising its greatest power, and also late in the afternoon. In the winter one can exercise pretty vigorously all day. In fact, we find it quite necessary if out of doors much and exposed to the cold.

SOLDIERS AND COFFEE.—According to the late Dr. A. E. Parkes, who took observations during a campaign in Africa, soldiers on the march exhibit most endurance by abstaining altogether from stimulating drinks of any kind, coffee and tea included, and eating mainly of oatmeal gruel, brown bread, and a little prepared or preserved beef. The oatmeal gruel, however, formed the larger portion of the diet.

SIDEACHE.—L. J.—We are of opinion that your painful experiences are owing to indigestion. Perhaps milk does not agree with you. In fact, we have observed that few can partake freely of milk without experiencing more or less discomfort. It is readily absorbed, and is liable to clog the depurating organs. Rye flour is a good article, and as generally obtained from dealers in the city contains more nutrition than the average grades of superfine wheat flour. We would advise you to eat very little sugar or molasses, but rather plenty of fruit at meal-time, especially of the fresh sorts.

AVERSION TO NUDITY.—We presume that the common aversion to being divested altogether of one's clothing, particularly when in a conspicuous relation to society, is due to the long-established habit of wearing clothes. In Paradisaic time man lived in a very warm region, and conventional usage dispensed with clothing, so people did not feel particularly embarrassed. This matter of costume is on the whole a subject of climate and of habit.

FOOD FOR STUDENTS.—I would like to know what is the best food that a student can use?

Answer: We will say to our correspondent that he should avoid pork and other greasy food in the main; that he should keep clear from all the pungent condiments—such as spices, mustard, vinegar. He should avoid tobacco and coffee, fine flour, and mainly also sugar and butter. Sugar is a concentrated extract which produces heat and heat only. Butter is taken from milk, where it belongs, and produces only heat. Superfine flour is mostly heating material, and the man or beast confined to that solely as an article of food, would not reach a hundred days of life. You should avoid pies, cakes, and most of those made dishes of which starch, sugar, and butter are leading ingredients. You may eat fish and eggs; bread made of wheat ground without sifting; also oatmeal, fruits and vegetables. Wheat is complete food; so is oatmeal, as birds and animals, which will live on them solely if they can, bear testimony; and these really cover the whole ground of nutrition. The same is true of milk and of fish; and certainly potatoes, green peas, beans, and other vegetables, including fruit, constitute complete food. A student should eat liberally of wheat and oatmeal, fish and milk, with fruit, and little of beef and mutton. In the excellent "Letters to a Son in College" the subject of diet has been carefully discussed.

What They Say.

"GRAHAM FLOUR" TO ORDER.—In a note recently received from a subscriber who resides in a leading town of Maine, an incident is reported to the effect that a lady called at a grocery and asked for Graham meal. The clerk, not sufficiently initiated in the tricks of the trade to be reticent with regard to them, replied, "We have no Graham meal now, but I will make some in a few minutes for you." The lady exclaimed, "You make some! How do you make it?" "Why," the complaisant fellow answered, "we mix flour and shorts half and half. Mr. —— (the proprietor) made some last week, but it is all out

now." The lady concluded not to wait for him to supply her.

PROFESSIONAL EXAMINATIONS. — We often receive letters from those who have been examined expressing the benefit which they have derived. Such a letter has just come to hand, and reads as follows:

S. R. WELLS & Co.: On the first of November, 1876, I was in New York, and obtained a phrenological examination, written out in full, which has been of great value to me. And now I want to obtain an examination of a lady friend, and also to know if we are suited to enjoy the marriage relation together. Will it be necessary to send the photographs of both of us?

Yours, truly, ——

EMPIRE CITY, NEVADA, Aug. 27, 1877.

S. R. WELLS & Co.: *Gentlemen* — I received your letter and books August 24th, and description of character which you made from my photograph is, as far as I am able to judge of myself, correct and satisfactory. I have now become fully convinced of your ability to describe character, and believe it to be every person's interest, who intends studying for a professional career, to consult you. I am determined, if it is the will of God, to give Phrenology a thorough investigation, as it is the most important and useful of all the sciences. It enables us to measure our own capacity, to ascertain our strong and our weak points, to learn what sins most easily beset us, and what course to pursue to guard against them, and promote virtue, purity, and holiness; how to cultivate the faculties which are deficient or inactive, and how to restrain or control excessive or perverted action. Knowing ourselves aright, we can set about the work of self-improvement understandingly, and with the best of prospects for full success. As a guarantee of my earnestness, I enclose ten dollars, for which please forward to me the set of books which is desirable for students to read before entering the Phrenological Institute of New York. It is my intention to attend the Institute next summer, 1878. Yours, truly, ——

"SO LONG AS SHE REMAINS MY WIDOW."—It has long been a matter of speculation in my mind whether the above was not a bit of pleasantry with which a man proposes to solace his last hours. It is a gross wrong that the law permits this clause to be inserted in a will. The family cares of the wife have prevented her from entering the workshop and "boning into the hardwork," but she has no less taxed mind and body in the privacy of home to sustain him in his endeavors to promote the prosperity of the family by her frugality, economy, and cheerfulness, and what they two have gathered belongs as much to one as the other. The husband has the power to bequeath, even to strangers, the most of the property, and often has it recorded in the county records that his wife can have the *use* of all or a portion of the rest as long as she remains his widow! The masculine mind, sanctioned by legal statutes, repudiates the right of the wife to say to her husband, under like circumstances, "This you can *use* so long as you remain my widower," and he may soon seek some congenial soul to help him enjoy the property which No. 1 carefully saved.

Aside from the legal wrong, it is also a moral wrong. A woman left a widow feels the loneliness of her situation no less keenly than a man, and this clause in his "last will and testament" has a tendency to its evasion, as illustrated by a recent case in Brooklyn, N. Y., where the will of the husband stated that the property should go to others if his widow re-married. The lady feeling the injustice of the act, and desiring another husband, went to reside with him without formal ceremonies, whereupon the conditional heirs brought suit to claim the property.

Another case in point is that of a lady residing near New Hartford, N. Y., who several years ago married a dry-goods clerk. She was possessed of a large property, and soon after marriage the husband left his situation and devoted his whole attention to the care of his wife's estate. Under his management her property dwindled, while he, as years rolled on, grew rich and influential. On his death his will gave to several persons large bequests, and the *use* of what remained—aside from her right of dower—he gave to his wife as long as she remained his widow! Whatever the motive, it must be a grim satisfaction for a man to know that such a clause in his will would have a tendency to keep his memory green in the heart of his wife for as many years as she remains his widow.

ALICE HUNTLEY PAYNE.

WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

THE best way to throw dice—throw them away.

AFTER all, our worst misfortunes never happen, and most miseries lie in anticipation.

I AM persuaded that every time a man smiles, but more so when he laughs, it adds something to his fragment of life.—STERNE.

WHEN I read Beethoven's life I said, I will never repine. When I heard his seventh symphony, I said, I will triumph.—MARGARET FULLER.

NO MATTER whether or not the men of the future happen to know your name; if they are unconsciously modified by your life it is enough.—E. P. TENNEY'S "Coronation."

A HEAD properly constituted can accommodate itself to whatever pillows the vicissitudes of fortune may place under it

WHO waits will come to sorrow;
He must not drive away
The vantage of the present,
The offer of to-day:
He must be up and doing
Some steady aim pursuing,
And while the sun is shining
Must not fail to make the hay.

IT is the great privilege of poverty to be happy unenvied, to be healthy without physics, secured without a guard, and to obtain from the bounty of nature what the great and wealthy are compelled to procure by the help of art.

MIRTH.

"A little nonsense now and then,
Is relished by the wisest men."

AT a recent dinner of shoemakers, the following toast was given: "May we have all the women to shoe and the men to boot."

"No," she said, and the wrinkles in her face smoothed out pleasantly, "No, I do not remember the last seventeen-year locusts. I was an infant then."

A TRAMP he entered a widow's cot,
One dark, uncanny night;
She felled him with a big slung-shot—
That was the widow's might.

THE following notice appeared on the west end of a country meeting-house: "Anybody sticking bills against this church will be prosecuted according to law or any other nuisance."

AN acrobatic Frenchman claims great credit for being able to "walk on the ceiling with his head down;" but if he wants to create a real sensation, let him walk on the ceiling with his head up.

"WHY did you name that old horse Napoleon?" asked a gentleman of a negro, whose horse was almost reduced to a skeleton. "Why, marse, you see it's caze the bony part is so strong in him."

"NEVER catch me marrying a reformed man," said a wise little Chicago girl; "when I get married it will be to some man that doesn't need reforming."

A MEDICAL journal gives the antidotes to a number of poisons, and adds: "These remedies must be given before the doctor comes." By all means. Give the patient at least one chance for his life.—*Louisville Courier-Journal.*

"MY son," said a mother to a little boy four years old, "whom above all others will you wish to see when you pass into the spirit world?" "Goliah!" shouted the child with joyous anticipation, "unless," he quickly added, "there's a bigger fellow there!"

A COUNTRY editor received the following: "Dear sir—I have looked carefully and patiently over your papers for months for the death of some individuals I was acquainted with, but as yet not a single soul I care anything about has dropped off. You will please to have my name erased."

HE was a very literal man and it was only his second visit. She was sitting at the piano reading the titles in her music book, and when she glanced sentimentally at him, repeating the words, "Why do summer roses fade?" he answered that he didn't know, but he had heard his father say that a dead cat laid at the roots of the bush in the spring-time would make the roses last all summer.

Library.

In this department we give short reviews of such NEW BOOKS *as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor us with their recent publications, especially those related in any way to mental or physiological science.*

DEVIL PUZZLERS AND OTHER STUDIES. By Frederick B. Perkins. 16mo, pp. 215, paper 50 cts. New York: G. P. Putnam's Sons.

This volume contrasts sharply with the common run of publications of the day, the miscellaneous and multiple "baby" books, and the olla podrida of stories about husbands, wives, grandmothers, etc., which have so much taken up popular attention. We would expect no nonsense from Mr. Perkins, even when he proposes to write nonsense, for his humor can not avoid the vein of practical satire. The series of essays—they are worthy the name—grouped in this well-printed little volume, teems with fun, but it is a nervous, emphatic fun, which instructs at the same time it amuses. Many truths are told us concerning our moral and intellectual waywardness, and many excellent admonitions quaintly suggested. The hit at the bizarre fashions of the day in the first sketch is neatly delivered, and the patent-minister and lecturer manufactory is characterized by an audacity which the reader can not help admiring. The experiences, nameless and terrible, odd and fantastic, of childhood, are vividly set forth in the study of that early period in our human probation. In these pencilings Mr. Perkins discovers

his kinship in the child-life with other men and women of his generation. "The Compensation Office" is the gem of the collection, and may be recommended to the perusal of society in general, and particularly to those disappointed or unhappy in their domestic relations, or in the vocations of their choice or necessity. The series closes with "My Forenoon with the Baby," which is packed full of mirth-provoking incident, and will please those mothers who are inclined to regard men nurses as "horrid bears."

READINGS AND RECITATIONS. A New and Short Collection of Articles in Prose and Verse, embracing Argument and Appeal, Farce and Humor, by the Foremost Temperance Advocates and Writers; suitable for use in Schools or Temperance Organizations, Reform Clubs, Lodges, etc., and for public and private readings. Edited by Miss L. Penney. Paper. Price, 25 cts. New York: The National Temperance Society and Publication House.

This collection, take it altogether, is an excellent one for the uses which are pretty fully set forth in the above title. As there are upward of a hundred selections, many of which are from the pens of eminent writers, the price is certainly very moderate.

ALCOHOL AND THE STATE. A Discussion of the Problem of Law as applied to the Liquor Traffic. By Robert C. Pitman, LL.D., Associate Justice Superior Court of Massachusetts. 12mo, cloth, pp. 406. Price, $1.50. New York National Temperance Society and Publication House.

It is certainly an encouraging fact for the consideration of all who are friendly to temperance reform, that the law, through many of its leading representatives, is becoming more and more interested in measures for the suppression of the promiscuous sale of alcoholic beverages. During the past two or three years, several books of high importance on the legal aspects of the temperance question have been published, and the appearance now of Judge Pitman's admirable treatise is indicative, we take it, of a growing demand for the solid discussion of the subject from the point of view of human right.

"Throughout this essay," the author says, "my purpose has been to keep close to the subject indicated by the title, to treat it in a calm and argumentative rather than in a rhetorical style, and to present the policy of Prohibition as not a mere corollary from personal abstinence, but as based upon the broadest grounds of statesmanship." The general tone of the book is in keeping with this statement; it is a calm, judicial view of the situation presented by alcoholism to-day. The data are drawn from the best sources, and those sources are fully named.

Judge Pitman divides his work into two parts: the first, distributed into ten chapters, discusses the direct influences of alcoholism upon society, in occasioning "Waste," the "Destruction of Home," the increase of pauperism, disease, and immorality. The second part discusses the legal aspects of the liquor traffic, in sixteen chapters, and covers a wide field, from "The Province of Law" to "Law as a Teacher" and "Enforcement." As an argument we consider this volume the most exhaustive and convincing of any that have been published on the subject, and we gladly commend its perusal to the reader in general, and to the active promoter of temperance reform in particular.

PUBLICATIONS RECEIVED.

THE OCTOBER NUMBER of the Magazine of American History (A. S. Barnes & Co., Publishers) is noteworthy. The leading article is an account of the Location of the National Capital at Washington. The biographical sketch, from the pen of the editor, is of Colonel Ebenezer Stevens, of the Con inental Army, who commanded the artillery of the Northern Department in the campaigns of 1776 and 1777, accompanied Lafayette in his Southern expedition in 1781 as Chief of Artillery, and was later at the siege of Yorktown. This sketch contains some new and curious details of the Boston Tea Party, in which Colonel Stevens was an actor. The department of Original Documents supplies a Bundle of Old Letters of Paul Richard, Mayor o. New York, of Robert and Richard Ray, New York merchants in 1758; a letter of a Son of Liberty to James Beekman and some interesting correspondence between Fulton, Madison, and Monroe upon the organization of a steam navy. To these are added the Journal of Charles Clinton, the founder of the great New York family of that name, of his voyage from Ireland to America in 1729. The Reprint is a translation from the Spanish of an interesting paper on the death of Diego Velasquez, the companion of Columbus. The Notes and Queries are full, and pleasant reading, and the notices of historical publications bring the record of this class of literature up to date.

THE PROPHYLACTIC TREATMENT of Placenta Prævia. By T. Gaillard Thomas, M.D., Professor of Obstetrics and Diseases of Women and Children, College of Physicians and Surgeons, New York. Reprinted from the *American Practitioner*.

MONTHLY WEATHER REVIEW FOR AUGUST. From which we obtain the information that during the month an unusually low range of barometer prevailed over the Atlantic and Gulf States; the temperature was excessive generally, and although there were many heavy local rains, the Middle States in general experienced a drought.

PROCEEDINGS AT THE TENTH ANNUAL MEETING of the Free Religious Association, held in Boston, May 31 and June 1, 1877. This bulky pamphlet contains addresses made by several eminent representatives of liberal religious thought; among them Wm. R. Alger, O. B. Frothingham, Wm. H. Channing, Rabbi Lasker, T. W. Higginson. Published by the Boston Free Religious Association.

FAMILY RECORDS; their Importance and Value. By William Frederic Holcombe, M.D. An Essay read before the New York Genealogical and Biographical Society, February 21, 1877.

THE CHRISTIAN INTELLIGENCER. Current numbers have come regularly to hand. We note an improvement in form and literary tone.

CIRCULAR OF COLORADO COLLEGE, at Colorado Springs. 1877–78.

OPENING OF THE PHRENOLOGICAL INSTITUTE.

The Autumn (1877) Session of the AMERICAN INSTITUTE OF PHRENOLOGY opened with appropriate exercises on the 6th of October.

Mrs. C. F. Wells, in behalf of the agents, bade the new students welcome to New York and the privileges of the institution, and reminded them that Phrenology is a science and its practice is an art, and that the main object of their coming here was to acquaint themselves with the art or practical application of Phrenology.

Mr. Austin, the instructor in Elocution, was then introduced and said :

In the course of instruction now inaugurated we come together, not as strangers, but as friends. We meet as the result of a line of thought and course of study that makes us companions and co-laborers. We come together in the spirit of a common fellowship ; in the interest of a common cause ; and I trust it will result in enlarging the field and augmenting the influence for a common good. You have gathered here from great distances to condense and crystallize into practical utility the knowledge you have imbibed of the laws and philosophy of our science, and we shall aim to so direct our efforts that you will all appreciate that each one of us in his special department has done his best to properly fit you for so important and useful a field of duty and labor ; and expect and believe that at the close of the session you will have reason to feel, that, without this course of instruction, you would be unable to assume the position to which you aspire.

It will be my duty to give you such rules and exercises in vocal culture as our limited time will allow, not with the expectation of perfecting you in the art of elocution, but in the hope of laying the foundation for *growth* to that end. Richard Grant White says : "Reading aloud is among the very best of educational disciplines, because a person can not read anything aloud *well*, with proper inflection and emphasis, without thoroughly understanding it "—and this is the art that makes the orator.

Expression should be as much a matter of education as the training of the mind. It is only secondary to the production of thought, and any course of education which discards the power of eloquence and professes without its aid to fully equip the mind, *cripples* its flight by withholding so strong a pinion.

The magic power of eloquence animates the earnest heart to high resolves and higher ambitions ; fires the soldier for conflict and to face death ; makes the culprit hide his face in horror from the distorted visage it reflects ; and breaks down the stern majesty of law with its tender pathos and subtle pleadings.

Some of the best thoughts and finest conceptions fall listless and lifeless for want of an effective delivery, while an otherwise ordinary speech, through the power and magnetism of a fine elocutionary effort, *rivets* attention and conveys lasting impressions ; and, as speakers, *you* will find that though you *have* your line of discourse well mapped out, and your ideas well drilled, you will fall far short in force of expression, in proper inflection and emphasis, without the aid this culture gives.

We bid you a hearty welcome and wish you a happy sojourn with us.

Mr. H. S. Drayton, instructor in Mental Philosophy and the History of Phrenology, in response to a call, said :

FRIENDS AND MEMBERS OF THE CLASS FOR THE AUTUMN OF 1877 :—I think it quite appropriate that there should be some formality in the opening of our sessions ; and there can be a form without much effort at seriousness. I take it that you who are present — those particularly who have come long distances—are actuated by a grave purpose. Being already acquainted somewhat with the fundamental principles of Phrenology, you have come to increase your knowledge, not only with regard to those principles in themselves, but especially with regard to their operation and adaptation in our active life. We claim—perhaps it is not necessary to make the assertion in this presence—that the principal object or aim of Phrenology as taught here is to give a knowledge of the selfhood ; first knowing ourself we can then proceed to consider those without. There can be no success in life —I care not in what department one may work— without a knowledge of the self-nature. How is it possible to adapt ourselves to any vocation without knowing our capabilities ? If you would teach others to understand themselves, you must instruct them from your own plane. You can have no standard of judgment with regard to others which will be sure—which will give a firm footing, other than that which proceeds from yourselves. I know that it is a common saying with people when remarks of a personal nature are made that are not altogether acceptable to them, that he who has made the remarks "judges others by himself," and they utter it in the spirit of reproach ; but I will not reproach a man for judging of others if I know that he has well-estimated himself beforehand ; for I know that he who well understands himself, will have a fair understanding of the world without.

Christianity is said by the theologians to deal with the "heart ;" that is the old designation of what we now understand as *spirit*. The good Book says that out of the heart proceed all kinds of expression—evil thoughts and good—confirming in advance this system of ours, which declares that man expresses in his outward manifestation motives and thoughts which rule within. Horace Mann was right when he said, "Phrenology is the handmaid of Christianity ;" for the very reason that Phrenology recognizes the inruling of motive, of sentiment, and that the expression of the man may be taken as a guide to the estimation of his mental status.

We, as Phrenologists, differ somewhat from the array of thinkers who appear to have the lead in modern metaphysics, and who are represented by such minds as Spencer. If you will look into their philosophy you will find it stated substantially that man is as he is by reason of— not his interior self—but of his environment ; the circumstances which surround him make him what he is ; and, therefore, if you would improve man's condition, you must improve his environment. Phrenology, however, says man is what he is by reason of himself, his inner nature, his inner life ; that man makes or mars his fortune for himself. I grant that circumstances have an influence—a tendency to mold and educate, but the man's motive, tendencies, individuality, are the motor principles in his life. Were we to attempt to apply the rule which those thinkers assert to the lives of many great men in the records of history, we would soon find that it would not suit. If it be circumstances, environment, which make men, would the world have known a Demosthenes, a Socrates, a Hadrian, a Swedenborg, a Galileo, a Luther, a Sterphenson, a Lincoln, an Edwards — that distinguished and living Scotch naturalist—who fought against circumstances during his childhood ?

Our surroundings may influence the mind ;

and yet we have surroundings sometimes with a mental state entirely different from that which would be suggested naturally by them. Do we not look at things through glasses which are colored by our mental state, be it hopeful, gloomy, or cheerful? Certainly each one of us views external conditions largely in accordance with our different views. Circumstances may suggest the coloring of thought, but the primary motive and the primary impulse is given by the man's essential character. Two men may be walking along a shore of the noble river which washes the western boundary of this city; one will see beauty and grandeur in it, the other will see utility—simply prosaic utility—and discuss its application for the purposes of commerce in a practical way; and the influence of the man who sees the beautiful may not be sufficient to work the practical man into an ecstasy of admiration. Hamlet is represented as learned, refined, noble, yet looking upon the world as disorderly and chaotic; but the great genius who created Hamlet saw beauty and adaptation everywhere governing in the world.

It was not my intention, however, to make more than a few simple remarks to you on this opening occasion, to the effect mainly that each one of those who will meet you in the character of instructors will be earnest and faithful in his department, and that when the session has come to its close, you will feel that your attendance here has been in most respects a benefit."

Mr. Nelson Sizer, instructor in Practical Phrenology, said among other things:

Thirty-eight years ago I was preparing to enter the phrenological field. I was studying the books by myself, and trying to make some drawings which would illustrate and represent the forms of heads. At that time Phrenology was not very much known—in fact, it was very little understood in this country. The Fowlers were lecturing, and the great Caldwell had taught some, but in those days railroads, telegraphs, and great newspapers were not in existence. Stage coaches carried people from Albany to Buffalo; they went through sometimes by daylight and sometimes not. Everything was localized; now everything is generalized.

When I commenced in this field there were but very few in this country trying to vindicate the subject publicly. You may count them all on the fingers of one hand. There were dear friends of Phrenology, such as John Pierpont, William Ellery Channing, Horace Mann, Dr. Boardman, Amos Dean, of Albany, late deceased. There were strong thinkers who studied Phrenology as a science, but not as an art. In that day there were very few men who understood Phrenology tolerably well or made any attempt at applying it practically. They would read it as a metaphysical science; they would study the nature of each faculty as laid down by the immortal Gall and Spurzheim, and by their no less immortal successors, the Combes and Dr. Caldwell; and they would see in it a science of metaphysics far surpassing that which they had ever conceived before; but beyond that they did not try to go. They did not undertake to apply Phrenology very much to the living head.

Practical Phrenology was introduced into the world largely by the Fowlers. In this Yankee world of ours we want a handle on both sides of the jug; we want everything to be practical. The question comes up, What is it good for? How can we use it? And therefore when the Fowlers began to study Phrenology they said: We must apply this. We must examine the heads of people. And how did they apply it? They would say to an audience, You may blindfold one of us, and he will make an examination while the other examiner is in another room, or even across the street, watched by a committee chosen for the purpose, that no collusion may exist between us. So, the first having finished his examination, the other would also make an examination blindfolded, that the audience might compare or criticise the two statements. I have done that with the Messrs. Fowler myself.

Of course, there has been a great deal of quackery practiced by persons pretending to be phrenologists, as in what new thought or discovery has there not been? Gumps undertake to preach the Gospel once in a while; selfish, ignorant men undertake to practice the healing art. Anybody can be an editor, or try to be. Sometimes one succeeds. In this great country anybody may undertake to do what he please, and if he succeed, he becomes master of the situation, so far as the situation extends. We demand of men to prove what they profess.

Now, wherein does this great subject of ours differ from others in regard to mind? The subject of mind has been the constant study of the greatest thinkers in every age since the dawn of civilization. Men have studied to know what is man, and what is in man, and they have closed their eyes and tried to introspect themselves. A great metaphysical writer will sit down and write very clearly about the way he feels himself; and he will infer as well as he can by examination of self-consciousness what he is, and so write a system of mental philosophy for other people to accept. Now, such a man can not write in that way a system for any other man, for they are not alike. No one of you could write a system of philosophy that would not differ from that of every other man or woman here. Why, you can not walk across the room and make such steps as any other person can walk in easily, naturally.

A metaphysician may write a system of mental philosophy, and speak about reason, judgment, imagination, will, understanding, etc., and call his work mental science. But in fact the metaphysicians differ almost as much as theologians differ. One man of note said that conscience, or that which we call conscience, grows out of the love of praise. Now, that man had large Approbativeness, and he was thoroughly honest in saying that which he felt, viz., When I have done wrong, what is my sense of remorse and sorrow? It is, What will the people say? What will the world think? Now, others differently constituted, would laugh at a man who felt that way when he had done wrong. Such a man has Conscientiousness less developed than Approbativeness, and Approbativeness forms the basis of his idea of conscience. Another man thinks the fear of punishment is the basis of moral duty. Once in a while we find a man who says man does right without the fear of punishment or hope of reward, or anything extraneous; but does right because it is right. That man has true conscience, and he will answer very well as a metaphysician on the subject of conscience; but he might not on other subjects. Phrenology is a system of induction—from facts—and in the course of this series of lectures and lessons we will show you how every faculty was discovered. Dr. Gall was one of the most honest of observers. He did not allow himself to decide any question with regard to an organ until he had made at least a thousand observations on the subject.

I want to say to you here, and now for the first time, but not for the last, the brain is the man just as much as the hub of the wheel is the heart of the wheel; and everything that you are, in power of hand, in sensitiveness of hearing, or clearness of vision, etc., you are because of your brain organization. Everything that belongs to man is the servant of this central organ, the brain, and there is where the soul and mind reside; there is where the man is.

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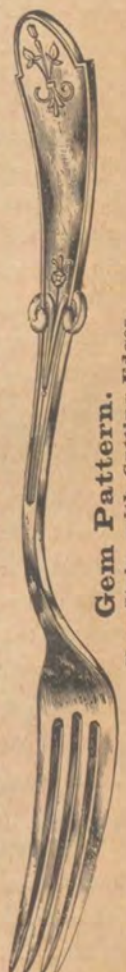


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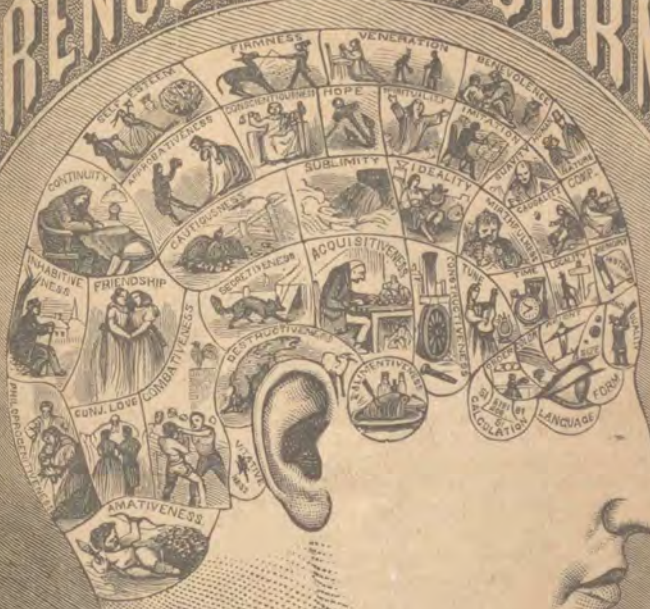
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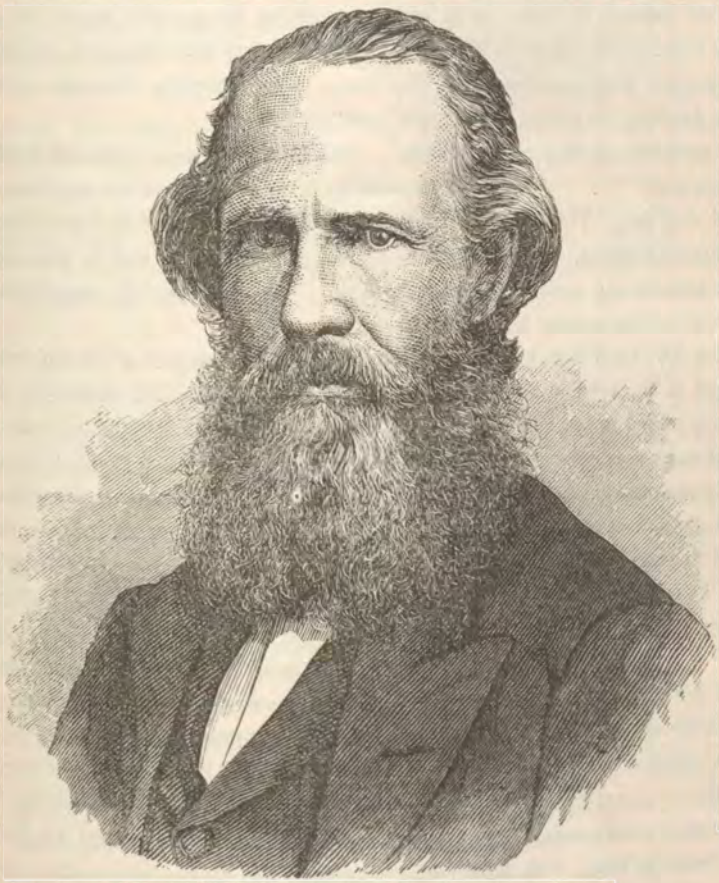
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RUSSELL T. TRALL, M.D.,

THE EMINENT HYGIENIC LEADER.

IN the November number the death of this eminent and most active of American advocates of hygienic medication was announced. As the intelligence did not

reach us before we were closing the JOURNAL forms for the press, it was necessary to defer such an account as might properly sketch his career until the present number. A dozen years or so ago a delineation of his phrenological character was published, which showed him to possess the following qualities and traits:

In brain and temperamental constitution he was a superior man, intensely active as a thinker and worker, thoroughgoing and positive in all that he undertook. As indicated by the portrait, he had a large and prominent forehead, the organs of Causality and Comparison predominating; but the perceptive faculties, as a class, were larger than they seem, on account of the fullness of the upper part.

He had very large Firmness, Cautiousness, Conscientiousness, and Combativeness—the latter being exceedingly prominent and active. We account for this on the ground that Dr. Trall had quite early in life engaged in the temperance cause, and subsequently added to his militancy in that the controversies in which he found himself involved for the maintenance of his opinions in physiology and hygiene. He has been, as is well known to most of our readers, the chief promulgator of the new school of medical practice based on hygienic principles.

He had but moderate Veneration, hence his comparatively little deference for old theories or opinions in religion and science, and his Secretiveness being moderate or small, and Approbativeness, Firmness, and Conscientiousness large, with an original, philosophical, and experimental intellect, he was disposed to take strong and radical grounds on all questions which interested him. Instead of adopting the opinions of others, or resting on theories which may be true or may be false, he looked at once to original sources to discover the causes of things.

He had that degree of integrity, truthfulness, and tenacity which would hold him to his convictions though burning at the stake. There was no yielding in his disposition. Intellect to discover, and Caution to make him careful to be right, and Conscientiousness to fortify and hold him to it, made it next to impossible for him to deny or forswear the truth. The religion of such a man is made up chiefly of Conscientiousness, giving the sense of justice, the appreciation of duty and obligation, and Benevolence, which imparts kindness, sympathy, and generosity.

His Constructiveness was well developed; it gave him fondness for mechanism and enabled him to appreciate inventions, machinery, architecture, and to plan and contrive. He abounded in suggestions and projects.

He had a full degree of Ideality, but more Sublimity, and was not wanting in a taste for art and poetry. Mirthfulness was large, which, combining with Combativeness and a quick, active intellect, rendered him very sarcastic and cutting in his remarks and criticisms whenever disposed to exercise the tongue or pen of the critic and satirist.

In the use of language, however, he exhibited more fluency through the pen; but had he given more attention to public speaking, he would doubtless have excelled.

Socially, the brain was well developed; in love for the opposite sex, for the young, for friends, for home, he was not deficient; but such was his devotion to the objects of his professional calling that he appeared less social and domestic than he really was.

His chief faults grew out of his moderate Acquisitiveness, for he failed to appreciate the true value of property; his small Secretiveness and large Combativeness, which

rendered him blunt to friends, and to his opponents unpleasantly candid.

His indifference to the opinions of others often led him into controversies and embarrassments which a little considerate deference would have avoided. But there was scarcely any of the elements of compromise in his organization, and his moderate Veneration and Spirituality were insufficient to tone down his rigid estimate of justice and propriety and his severe requirement of proof before he would yield assent to any proposition which did not at first make a favorable impression.

RUSSELL THACHER TRALL was born at Vernon, Tolland County, Conn., August 5, 1812. His parents removed to Western New York, then almost a wilderness, while he was an infant, and where he was designed for the life of a farmer. His opportunities for education were exceedingly meager, and were wholly confined to the District School. Before he had fairly emerged from boyhood he lost his health, and receiving, as he believed, nothing but injury from the treatment of all the physicians whom he consulted, and being dissatisfied with their explanations of his malady, and their talk about the remedies proposed, he determined to investigate the subject for himself. His father was astonished and the whole family circle surprised on being informed that he had "chosen a profession" and had entered the office of the village physician as a medical student. Some opposition was manifested by the "constituted authorities" to the boy's action, but when it was found that he had "made up" his mind, the point was conceded; a yoke of oxen was made over to the doctor in payment for two years' tuition, after which the medical aspirant was to work his way in bleeding, pulling teeth, visiting unimportant patients, and otherwise assisting the "old doctor." In a day or two thereafter the subject of this memoir found himself peacefully installed among bones, books, and drugs. He had, however, no definite idea of ever becoming a physician. His health was lost. If he did not regain it he was useless. He determined to sacrifice all to that primary consideration, and let the future take care of itself. He pursued his studies diligently for three years without finding the health he sought, and then, after attending courses of lectures at Castleton, Vt., and Albany, N. Y., he was graduated, and practiced several years in accordance with the theories into which he had been educated. Having studied medicine as, perhaps, very few other human beings have, with no reference to acquiring a profitable trade or business, but solely with the view to self-preservation, he was almost of necessity a close and critical scholar and an impartial and unprejudiced truth-seeker. Before he had finished his course of studies he began seriously to think that a majority of medical doctrines were, as he styled them himself, "the incoherent expressions of incoherent ideas;" that many of the rules of practice as taught in the standard text-books were entirely erroneous, and that many of the remedies in general use were not only injurious, but dangerous. Before, therefore, he had taken the degree of M.D., he had become very skeptical with regard to much of the so-called Medical Science of the world. Having no love for nor interest in any system but the true one, and being determined to satisfy himself, if possible, what was true, he investigated theoretically and tested experimentally the Homeopathic, Eclectic, and Physio-Medical systems, his observations and experience continually leading him away from all faith in drug medicines of any kind.

In 1840 he came to New York, where he had enlarged opportunities for pursuing his researches, and soon became fully satisfied in his own mind that the whole system of drug-medication was false in philosophy and absurd in science, "in opposition to nature and contrary to common sense," and that the only true remedial agents were those materials and influences which possessed *normal* relations to the vital organism—air, light, water, food, temperature, exercise and rest, sleep, emotional influences, electricity, etc.

About the year 1844 he opened in New

York city a "Water-Cure," the first undertaken in the United States. His first patients were a set of desperate cases from the Broadway Hospital, all of whom recovered under his management. From that time Dr. Trall did not administer a grain of drug-medicine, or alcoholic stimulants of any kind.

In 1847 he started the New York Hygienic Institute in Laight Street, New York, and continued to direct it until 1864, when he disposed of his interest and went to Minneapolis, Minn., where he had organized a Cure on a large scale. This enterprise, however, did not succeed in accordance with his expectations, and he returned to New York in 1866, and shortly afterward opened the establishment at Florence Heights, New Jersey.

In 1852 Dr. Trall founded a "Hydropathic and Physiological School," which was chartered by the Legislature in 1857 under the name of the "New York Hygeio-Therapeutic College," and authorized to confer the degree of M.D. In this college ladies and gentlemen were admitted on precisely equal terms.

In 1862 he went to Europe to attend the International Temperance Convention. In this meeting of reformers he took a prominent part, discussing with his characteristic vigor the physiological aspects of questions relating to the use of alcohol as a beverage and as a medicine.

Notwithstanding extensive and exacting professional business, Dr. Trall found time to write many valuable books and pamphlets, besides editing and contributing to several periodicals. The catalogue of his published books includes more than twenty-five volumes, embracing the subjects of Physiology, Hydropathy, Hygiene, Vegetarianism, Temperance, etc. The most noted and perhaps the most valuable of these is his "Hydropathic Encyclopedia," an elaborate work of nearly one thousand pages, which not only treats of the theory and practice of Hydropathy, but also considers the philosophy and treatment of diseases advanced by the older schools of medicine. The circulation of this work has exceeded forty thousand copies.

"The Family Gymnasium," another popular treatise, was written to meet the want of the people for a text-book which would advise them with respect to proper methods of physical exercise.

"The Hydropathic Cook-Book" was a natural outcome of the practice of his system of dietetics in the hygienic establishments which he started. It is not only a compilation of recipes, but also a scientific treatise on human foods.

"Popular Physiology" is a brief but thorough treatise on the subject of human physiology, adapted to the use of the reader and to schools as a text-book.

One of Dr. Trall's later works is "Digestion and Dyspepsia," which has found a wide circulation. Although a small volume, it contains a full description of the different causes and forms of dyspepsia, and supplies advice with reference to their cure by dietetic means.

"The Mother's Hygienic Hand-book" is, as its name implies, a manual for the use of women in the home treatment of the disorders peculiar to themselves, and in the management of children. It is an exceedingly valuable work, and has saved many lives and prevented more suffering and disease than could be easily related.

Besides these, his "Alcoholic Controversy," "True Healing Art," "Uterine Diseases," "Tobacco Using," "Water-Cure for the Million," and "The Temperance Platform" are worthy of passing mention.

For several years previous to his death Dr. Trall had been engaged upon a work which was intended to embody his views and many years' experience as a medicist, and it is gratifying for us to be able to say in answer to recent inquiries, that he had very nearly completed it, so that its publication may be expected at no very distant day. In the palmy days of the Washingtonian Movement he edited the *New York Organ*, then the leading temperance weekly of the country, and for two years he was one of the assistant editors of the weekly *Life Illustrated*, at one time published by this house. For more than fifteen years he had charge of the editorial department of the *Water-Cure Journal*, which was pub-

lished by Fowlers & Wells and was afterward called *The Hygienic Teacher;* later, when it became his own, *The Herald of Health.*

On assuming charge of the "Hygeian Home" at Florence Heights, Dr. Trall gave attention more strictly to the treatment of his patients and to the instruction of the classes in the Hygeio-Therapeutic College, the sessions of which were held subsequently to 1867 at Florence.

As a writer, he wielded a ready pen, and wrote in a crisp, condensed style, which proclaimed the man of learning and experience. It may be said with safety, that for clearness and vigor of thought, facility of expression, and command of data relating to his subject, he was unsurpassed by any other writer in the ranks of contemporary medicists. His manuscript was singularly free from alterations or erasures, and he was a friend to the printer, in that he rarely found it necessary to make changes in his proof-sheets.

His death, although at an age when men are commonly deemed in the decline of life, may excite comment reflecting upon the system of which he was so powerful an advocate. It is, therefore, proper that we should ask the reader to consider the life of the man, and judge whether or not his career of sixty-five years is a strong testimonial in favor of his theory and practice.

He has been an incessant, enthusiastic worker, violating indeed many of the rules of hygiene which he himself insisted upon as essential to be observed if one would have good health. It was a common habit of his to work far into the night to accomplish what he deemed necessary, and in this way his native stock of vitality (never great) was largely drawn upon; besides, the weakest point in his constitution was that which was impaired by disease in his early years. A few days before his death, while in an exhausted condition from overwork, he contracted a severe cold. He was not living as an inmate of the Hygeian Home at Florence, but in a cottage detached from the ground, with his son, they having their meals sent to them or going to the regular dining hall. When he felt the influence of the cold, he took a wet-sheet pack, supposing this would be sufficient treatment, but it should have been followed up, as it was not. His judgment was greatly warped by his physical condition, and when his son desired to render him assistance and proper care, he declined to be cared for. His instinct was to be let alone, and his son, a young man absolutely without experience, having been used to yielding to his father's judgment in all things, yielded now to his father's request to be let alone, supposing that rest was what he needed and that he would soon recover. The atmosphere in that part of the State, as well as in many other parts of the country, has been during the past season much tainted with the malarial influences which produce fever, and in his debilitated condition Dr. Trall was a susceptible subject for it. Those familiar with the nature of malarial disorder know of the depressing influence it has on the mind. This soon took hold of the doctor and he became rapidly worse, still urging to be left alone, until the young man, becoming alarmed, called on friends for counsel and sent for the doctors. But it was too late; Dr. Trall was already dying, and he passed quietly away as though asleep. He had often said of late that he had lived his allotted time, and now it could be no fault of hygiene if he died. Still he hoped to live many years, feeling that his work was hardly finished; but as stated before, what he had done would have exhausted the life of a much stronger person, and the accomplishments of his career will wield an influence through coming generations.

THE GOVERNMENT LIBRARY.—The entire number of volumes in the library of Congress is now about 315,000. This library is especially rich in periodicals, nearly all the English and American reviews and magazines being taken, with many of the most valuable in foreign languages. The files of newspapers alone now exceed 5,000 bound volumes. The copyright business of the library, notwithstanding the depressed condition of the book trade, shows more entries than last year, about 11,000

copyrights having been granted since the 1st of January, 1877. An increasingly large number of periodicals, musical compositions, photographs, engravings, and maps are protected by copyright. The library grows so rapidly, through its various collections, aided by purchase, exchange with foreign governments, the deposits of National and State documents, additions from the Smithsonian Institute, and the operation of the copyright law, that the necessity of a new building, constructed especially for its accommodation and future growth, has long been conceded. It is believed that Congress will, at the coming session, provide for the better protection and safety of this great and invaluable library.

FULL-ORBED MANHOOD.

[AN extract from the Rev. Joseph Cook's lecture on "Certainties in Religion" delivered before the Chautauqua Assembly:]

"WHAT a frictionless action is the soul of a full-orbed man! Why do I say full-orbed? Because this loom might turn against the very plan of it if you were to take off half a dozen wheels. The young man who has crushed out fifty or eighty of the noblest instincts of his nature by dissipation—he is not only a dissipated man, but he is a dizzy-pated man; he is not a fair specimen of human nature. I will not take him to find out how this human machine may be made to operate harmoniously upon itself, for several of the wheels are gone. Perhaps I could turn him the wrong way and give no distress to his faculties.

"Well, but you say this is a very unfair procedure. It is a scientific procedure, for if I go to Ann Arbor, or the University of New York, and ask some great professor what the lily of the valley is, or what the plant we call maize is, he will not show me a stunted specimen. If I carry to him a lily of the valley or a stalk of maize, he will want a specimen that grew in good soil, and that was well watered, and that showed all the powers of the plant. If I present to him the plant which rustles over so many hundred square miles on the prairies yonder, he will ask: 'Did the maize come from France, where it produces forty to one; or from Illinois, where it produces eighty to one; or from Mexico, where it produces a hundred and fifty to one?' He will not take the maize to put into his cabinet unless it is a full-grown specimen, and he is perfectly scientific in that procedure; and so with the lily of the valley—he will not have it from any stunted soil, but he tells me that I must make up a picture of it if I can not get a perfect specimen. Some specimens are good, and I will picture the best in a number of specimens until I have from several specimens a perfect idea of what that plant can do. When I have done this, I carry that picture to Prof. Agassiz, or Prof. Dana, and he will say: 'That is a lily of the valley that I will show to the world as a specimen of what is natural in that plant.'

"Just so I claim that if I have to follow the scientific method in ascertaining what is natural to human nature, I must take full-grown specimens, and if I can not find in any one man or woman all the growth of all the faculties, I will take the best history has shown here, and the best it has shown there, and make up my ideal of man as Agassiz does his ideal of the lily of the valley. What is natural to man? Let us answer that question by an unflinching application of the scientific method. Let us for a moment build up a man by that stern style of dissection which the student of merely physical science applies to the plant. We shall find ourselves confronted at once with a sense of our own fragmentary growth. I have a right, just as in the case of the lily of the valley, to take the best of many specimens.

"Put together Phocion for Greece, and Hampden for England, and Washington and your Lincoln for America, as representatives of lofty justice in men. Take your Aristotle and Bacon, your Kant and Hamilton and Edwards, as specimens of

analytical power. Take your Isaiahs and Fénelons and Bossuets, your Miltons and your Jeremy Taylors, as illustrations of the height which men may attain in the spiritual imagination and insight. Take your Napoleons, your Hannibals, your Cæsars, for executive strength. Put into those full-orbed men the consciences of the martyrs and the apostles and the prophets. And now, having built up the loftiest zones of human nature according to the scientific method, I will not diverge from the stern demands of science: I will put into the lower zones of man's nature the very best growth you have seen there. For after Isaiah and Plato, after the prophets and apostles, after the Cæsars and Napoleons, after the Kants and the Hamiltons have been put into the upper ranges, I can bear to put into the lower, as added basilar strength, the Caligulas and the Neros and the Domitians and the Vespasians. It will only give steeds to these riders to put the best growth of the basilar faculties beneath the best growth of the coronal. It is good for a man to have a tempest in the lower half of his face if he has a hurricane in the upper half.

"Now, with that thought of a full-orbed man before you, ask whether nature made up thus can stoop to the gutter, can be at peace while uttering the words 'I will not' defiantly to the still small voice that says 'I ought;' can harmonize itself with the environment which faculty gives to faculty when it will not do what it knows it ought to do, or what the nature of things requires? Is it in such a full-orbed specimen of human nature to act crookedly or to drop down to vice? There is a rule in the United States that no one State can declare war or make peace without the consent of all the other States. Massachusetts and South Carolina have no right, under the Constitution, to fall into war or to declare peace unless the Union gives its consent. Now, just that is the law of this republic of faculties, and is the law of this full-orbed nature which I have sketched, and of which we have at best only a sketch, for a man must be a full-orbed nature in order to appreciate one of that nature. In man's nature there is a law that there must not be any secession. South Carolina must not go out of the Union. There is not a vice that can get a vote of the Union on its own side. I claim there is not a single action in human nature known as a vice that is not a secessionist in the constitution of man's nature. Now, if you please, it is getting to be a stern last morning with all philosophy that has vice, if these things can be demonstrated to all men. We know we are made on a plan, and the soul ought to act frictionlessly, and of course, when men take a full-orbed soul as a specimen of what is natural, and we know that every vice is a secessionist, why, we know then *scientifically* there is a best way to live, and if there is a best way to live, we know scientifically that it is best to live the best way.

"You think nothing can be proved outside of the Bible? Why, all these propositions I hold would be true even if there had been given us no revelation. I hold this is incontrovertible."

COLORED PEOPLE.

CONSIDERED SCIENTIFICALLY AND SOCIALLY.

[THEIR candidate was Scipio Africanus (colored), a shrewd fellow, and a zealous partisan.—*South Side Gazette.*]

OUR fellow citizens of African descent seem to have a prejudice against the appellation, negro. Perhaps this is because some white people, who know better, and ought to *do* better, are accustomed to spell it with two *g's* and pronounce it with an offensive intonation. As the word simply means black, however, it is at least appropriate, and should not be considered any more a term of reproach than white or red. The objection to the word "colored" as a designation for the black race lies in the fact that it has, in its ethnological applica-

tion, other meanings, so that its use is liable to lead to confusion. In fact, it is often applied, even here in the South, to persons of mixed Caucasian and negro blood, to contradistinguish them from the pure blacks. But I am not disposed to be hypercritical, and simply desire to explain that I use the term "colored" in the heading of this article out of respect for what I consider an unwise sensitiveness on the part of the people who assume it, and that I include under it all who have sufficient African blood in their veins to show it in their complexions, or by means of any other external characteristics.

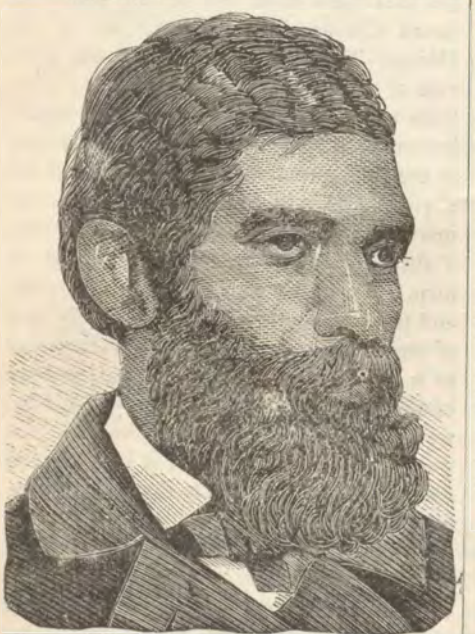


Fig. 1.—An Educated Mulatto.

If the "negro question" could be separated entirely from party politics, and from local prejudices and sentimental prepossessions, and be discussed on purely scientific grounds, and in the light of phrenology and physiology, there would be little difficulty in reaching some satisfactory conclusions.

The status of nations and of races, as well as of individuals, depends upon organization—upon the size, quality, and shape of the brain, in connection with the constitutional condition or temperament of the body; and these are susceptible of being ascertained by careful observation, examination, and measurement. The cranium, taking into account the varying thickness of the bone (readily determined by external signs), is the measure of the size of the cerebral mass, and the indicator of the



Fig. 2.—Negro Skull. Top-view.

relative development of its different parts or organs. Its organic quality, and the temperamental conditions of the physical system, as a whole, which greatly affect its action, have also their outward indications, easily distinguished by the well-instructed physiologist. What, then, is to prevent us from subjecting our colored friends to the tests which we have found trustworthy when applied to ourselves? If the cranium of a Cæsar, a Napoleon, or a Webster re-

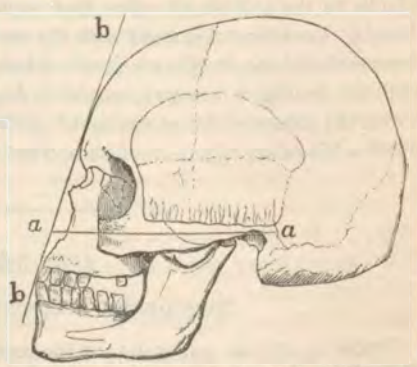


Fig. 3.—Negro Skull. Side-view.

veals to us the secret of the wonderful power of these intellectual giants, may not the cerebral encasements of Scip, Wash, and Jeff (colored) be read in the same way, and made to tell why the latter are

only "field hands" still, in spite of freedom, suffrage, and the spelling-book?

Having spent no inconsiderable part of a life-time among the negroes of the South, knowing them both as slaves and as freedmen, and being accustomed to study man and society in the light of phrenology and physiology, I feel justified in asking to be heard on this subject. I am unconscious of any prejudice or prepossession which could warp my judgment, and am sure that I have no partisan bias.

What, then, are the characteristics, physical, mental, and moral, of the colored people of the Southern States of the American Republic as we find them to-day, after a few generations of slavery, and a decade of freedom and political equality, in close contact with Caucasian civilization?

First, then, in those peculiarities which distinguish the Black, Tropical, or Woolly-headed race from all others. The negro of the Carolinian plantations does not differ materially from the negro as the pyramid builders of Egypt knew and figured him, more than three thousand years ago, as the accompanying drawing of a negro head, made in the reign of Rameses III., thirteen centuries before Christ, will show. With a little improvement in the drawing, the picture might pass for the portrait of one of the sable legislators of South Carolina or Florida. I am far from saying or believing that there has been no improvement resulting from contact with the white race and its advanced civilization, even under all the disadvantages of bondage, and an enforced ignorance of book-knowledge. The point I desire to make is, that racial distinctions are at least comparatively permanent. The negro may improve, but the improvement is in the line of his racial tendencies—he improves as a negro, and not by approximating the Caucasian. The race may reach a high civilization, but, except so far as it is swallowed up and made a part of an European or American civilization, it will be a very different thing from the civilization of the Caucasian race.

In the second place, the negroes of the United States are the descendants of individuals taken from many different African tribes, and therefore, perhaps, more truly represent the race as a whole, than the people of any one tribe in Africa itself could do.

The stature of the negro, as we know him here, is medium and more uniform than

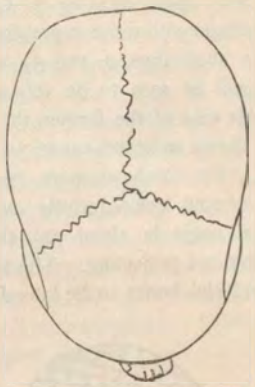


Fig. 4.—Caucasian Skull. Top-view.

that of the Caucasians of this country, very few individuals being remarkable for either tallness or the reverse. Their figures are generally symmetrical, except that, compared with the Caucasians, the humerus is a little shorter, the forearm longer, the shin bones slightly bent forward, and the calves placed high up. Their gait is erect and free, but except in young persons seldom graceful.

The osseous system is strongly developed, the bones being large and heavy, and their

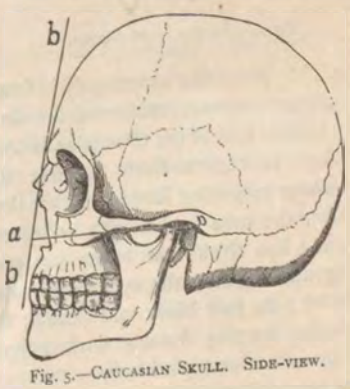


Fig. 5.—Caucasian Skull. Side-view.

articulations prominent, the apophyses being fitted to receive broad insertions of the muscles. The skull is coarse and thick, the dome being particularly solid, so that common negroes sometimes fight by butting

with the head, like goats, and with no more serious consequences.

In examining the negro cranium, the first thing that strikes us as peculiar is its relative length. This is equally apparent whether it be viewed from the side, as in fig. 2, or from above, as in fig. 3. Compare these drawings with those representing the Caucasian skull (figs. 4 and 5), and the contrast will be seen to be very striking. In the side view of the former, the frontal region is shown to be less capacious than in the latter, the forehead more retreating, and the occiput comparatively more full. The facial angle is about 70°, the jaws being heavy and projecting. The top view shows the facial bones to be laterally compressed, but projecting enormously in front. The average internal capacity of the skull is 82.25, while that of the Caucasian is 93.5. The face is comparatively narrow, the cheek bones projecting forward, rather than laterally; the nose is flat, with wide nostrils; the lips thick; the lower jaw protruding and angular; the eyes deep-seated and black; the hair black and woolly; the complexion varying from a dark copper color to an intense sepia black.



Fig. 6.—An Egyptian Negro.

The temperament of the plantation negro is almost invariably Motive. This is the prevailing temperament of the race in its savage condition, and the labors of the field, to which the women as well as the men were subjected in bondage, were well calculated to perpetuate and intensify it. In cities and towns, among those who have for generations been house servants, and have led a comparatively easy life, while living on "the fat of the land," the Vital temperament is not uncommon, especially in the women. Of the Mental temperament, I have seen few, if any, good examples among the pure blacks. A few generations under the *régime* of free schools and the responsibilities and opportunities of citizenship will, no doubt, develop it, and improve the size, form, and quality of the brain.

Such as I have described him is the colored freeman of the South, in his external physical aspects. What are the mental characteristics of which his configuration and temperamental conditions are the outgrowth and signs?

The prevailing bilious-motive temperament gives the negro not only the physical strength, hardiness, and toughness of fiber essential to a life of active labor, but it also imparts to the mental organization that persistence in manifestation—that capacity for patient endurance and continuous effort which enables him to cheerfully submit, when necessary, to days, weeks, and months of monotonous labor. The negro is continually accused of laziness. He is not lazier than the Caucasian who was once his master. From temperament he is slow, and it requires the stimulus of interest, or some external excitement, to arouse him; but when there is the necessity for it, he works with a will and with a perseverance for which he has hitherto got little credit.

On another point connected with temperament the colored people are strangely misunderstood. While supposed to manifest in the highest degree the sloth and indolence which are naturally associated with the lymphatic constitution (an abnormal condition of the vital temperament seldom found in the negro), they are generally described as being exceedingly volatile, buoyant, and jovial, as well as improvident, and careless of the future, traits that belong to the sanguine constitution, which is not commonly predominant in them. The truth is, the general deportment of the colored popula-

tion of the South is grave and serious, rather than light and mirthful, and there is far more pathos than jollity in their lives; even their music, so far as it is original with them, is always in the minor key.

Visitors to the South, particularly during the existence of slavery, saw the negro mainly in his hours of relaxation and recreation. His "corn shucking" frolics and Christmas merry-makings were the sharp reactions against the monotonous drudgery of his lot. No wonder the merriment was sometimes wild and boisterous, and that he danced and sang with more liveliness than he was accustomed to manifest in the cotton field. He can still be madly hilarious, under excitement, but the tendency now is to work off all surplus animal spirits through more serious exercises.

If the colored people engage in no grand enterprises, and make few, if any, organized efforts to improve their condition, it is not from any temperamental levity or fickleness, but because their foreheads are too low and narrow—in other words, because their intellects lack the depth and comprehensiveness required in movements of broad scope and affecting numerous interests.

Intellectually, the negro is observing, imitative, and docile; but his reasoning powers being imperfectly developed and in a half dormant condition, he has little ability to classify the individual facts of which he readily acquires a knowledge, or to comprehend the general principles which underlie them; therefore, while simple ideas are received with the greatest facility, those of a complex character only confuse him.

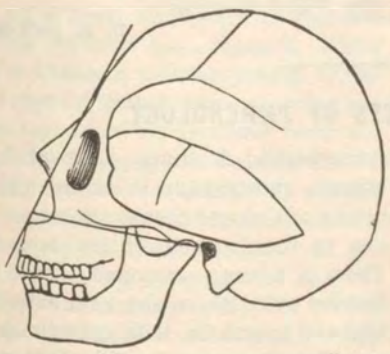


Fig. 7.



Fig. 8.

FACIAL ANGLE.

Dancing is dying out among the negroes, and their singing is almost exclusively confined to "psalm tunes." Religious meetings, "wakes," or watchings with the dead, in which the whole night is spent in psalm-singing and prayer, funeral processions, picnics, barbecues, and political gatherings have taken the place of balls and other more frivolous amusements.

The improvidence and carelessness of the future which characterize the freedmen are partly the result of climatic conditions, which affect all southern peoples in the same way, and partly due to their "previous condition of servitude," in which there was no occasion to give any thought to the morrow, which of course affected more or less permanently their characters.

His power of expression is wonderful, and is apt to outrun both fact and thought. His ideas never clog his speech. In his public harangues there is a steady and rapid flow of language, fervid and sonorous, sometimes almost eloquent, but oftener grandiloquent and grotesque. All negroes are fond of big, high-sounding words, and in conversation never use a short and simple Anglo-Saxon term when they can make a polysyllabic Latinism do service, and it matters little whether they fully understand its meaning or not. With a higher mental development and a better stock of facts and thoughts, this fluency and love of imaginative, ornate, and sonorous speech, together with the fervor and passion natural to his warm Southern blood, when quicken-

ed by excitement, may make the negro the natural orator of the future.

Rhyme and rhythm seem to have a charm for the negroes, and in their verses, sense is generally entirely secondary, as in the following fragment of a song:

Give this nigger
Chorus—Corn bread, corn bread!
Coon in the hollow
Cho.—Tree him, tree him!
'Possum in the 'simmon tree
Cho.—See him, see him!

And so on, with endless repetitions. Or as in this still more absurd jumble:

Solo—Obadiah
Chorus—Jumped in the fire:
Solo—Fire too hot,
Cho.—Jumped in the pot;
Solo—Pot too black,
Cho.—Jumped in the crack;
Solo—Crack too high,
Cho.—Jumped in the sky;
Solo—Sky too blue,
Cho.—Jumped in a canoe;
Solo—Pond too deep,
Cho.—Jumped in the creek, etc., etc.

till at last he "jumped in the cotton," when

Solo—Cotton so white,
Cho.—He stayed thar all night.

I can not refrain from giving one more example of this subordination of sense to sound. Walking one day in Charleston, in a street mostly inhabited by colored people, I met two negro boys singing as follows, with, so far as I continued within ear-shot of them, never-ending reiterations:

1st Boy—I know somebody what won't tell;
2d Boy—You go to heaben on a cocoa-nut shell!

I wondered (and I still wonder) if there might be, in the convolutions of the negro brain, a faculty lacked by us, by means of which he may discover an occult sense and a logical sequence where there seems to us only jargon and jingle!

D. H. JACQUES.

THE SCIENTIFIC ASPECTS OF PHRENOLOGY.

IN view of the controversy just now waging between Phrenology and its reviewers, and of the special aspect that the argument has taken, judging from the articles entitled "Reviewers' Persistence in Error," in the August and September numbers of the PHRENOLOGICAL JOURNAL, it is, perhaps, admissible for a comparative anatomist to contribute to the literature of the question a running review of the anatomical and physiological data upon which Phrenology rests. I enter upon this task with the greater pleasure, because, although the term *Phrenology* appears to me to be a very objectionable one, there is, I apprehend, very little difference among comparative anatomists as to the method of investigation founded by Gall and Spurzheim being the only really inductive method of psychological research, or as to the scientific certainty of the fundamental doctrines established by them. My own acquaintance among the representative physicians, anatomists, physiologists, and men of science in this city is pretty extensive; and of them all I can not designate a single eminent anatomist or physiologist who is not, as concerns the fundamental doctrines of psychological science, substantially in accord with the system of Gall and Spurzheim, save in relation to the function of the cerebellum. There is a very general and (I think) well-founded objection to the term adopted by Gall and Spurzheim to designate their system; but the system itself has passed into science, although, as it requires a master to give it a thorough exposition, their mode of conducting dissections has not yet been adopted in medical institutions, strenuously as its adoption has been advocated by Homer and other practical anatomists.

In Germany, while the name proposed by Dr. Gall has been rejected, his method has eventuated in a science styled *Psycho-physik*, of which Wagner, Huschke, Helmholtz, Wundt, and others are among the most distinguished exponents. In England, the early investigations of Carpenter, and the recent and brilliant experiments of Ferrier, to say nothing of Bastian's clinical contributions to the literature of psychology, have resulted in furnishing abundant experimental and pathological evidence of the soundness of the theory that the cortex of

the brain consists of a congeries of nervous centers arranged into groups and finally into lobes. Any one who, without removing the *pia mater*, or, better than that, having previously injected its arteries with a colored preparation, will, with a human brain before him, take the trouble to study the distribution of its arterial circulation trunk by trunk, limb by limb, twig by twig, will find occasion, perhaps, to modify the old conception of a division of each hemisphere into only three lobes. But he will find no occasion to dissent from the view that the convolutions are arranged into groups along the parietal region, and into lobes in the infero-lateral and anterior regions. Having, after a somewhat tortuous route, effected its entrance into the cranium, each internal carotid artery, independent of its anastamosis with the other and with the vertebral supplying the posterior portion of the same hemisphere, is divided into two important nutritive trunks, one of which passes directly forward, dividing and subdividing, while the vertebral turns abruptly outward along the Sylvian fissure, traveling considerable distance as a trunk and then dividing very abruptly into several *rami* of very moderate capacity. At the same time, in its journey upward and forward, the vertebral artery supplies a considerable trunk to the convolutions, which is designated as the occipital; and thus, as concerns the convolutions and their nutrition, the base and lateral regions of each hemisphere are divisible into three lobes—the anterior, the sphenoid, and the occipital. A fourth lobe—the temporal—is generally recognizable on the left hemisphere of the brain, but not so distinctly as upon the right. Anatomists have, therefore, substantially settled upon the term temporo-sphenoid for the second in the order mentioned, thus regarding it as a species of compound lobe. Although these three or (on the left hemisphere) four grand divisions are very distinctly marked at the base, their superior boundaries are by no means so clearly defined. The cause of this lack of superior definition is a very simple one, having its basis in the nutrition of the brain itself. As the two anterior arteries creep forward, sending off occasional twigs, they keep well within the parietal region and traverse it longitudinally from tip to tip, in such a manner that, while the inferior and lateral region of each hemisphere receives its nutrition from three arteries and consists of three lobes, the middle region from tip to tip is fed by a single artery. The result is, that this region shows no such distinct lobulation as appears at the base, and that, as marked upon the base and inferior surface of the hemisphere, the several lobes ascend only about three-fourths of the distance from the base to the top, and there terminate. The portion fed by two long arteries traversing the middle of the brain from one end to the other, may be very properly divided into anterior, superior, and posterior parietal regions, but it is anatomically and physiologically inaccurate to speak of it as divided into lobes.

As respects its relations to such nervous centers as the corpora striata, the optic thalami, and the quadrigeminal tubercles, the fibers radiating from these bodies are not, so far as I have ever been able to find, concerned in the structure of the parietal region. On the other hand, its fibers for the transmission of activity descend and enter into the structure of the great longitudinal commissure of the brain, which associates the functions of its many centers, and completes its comparative isolation as the great tract of perception, ideation, moral judgment, religion, self-feeling (German, *Selbst-gefühl*), and social order, from the great centers of purely animal and motor concern that lie below.

I am thus particular in bringing out these important facts of structure, nutrition, and physiology, because, while Dr. Carpenter has gathered from comparative anatomy that the development of the cerebrum posteriorly is always relatively greatest in animals of the highest relative intelligence, he has offered no adequate explanation of the fact, and has left it to be inferred by such inexperts in anatomy as the PHRENOLOGICAL JOURNAL has just been reviewing, that the posterior lobes are the special seat of the intellectual faculties. There is no

doubt, other things being equal—but when are they equal in any two individuals?—that the length of the parietal tract is a pretty accurate index of intelligence. This, however, is a vastly different thing from maintaining that the centers of perception and ideation are situated in the posterior quarter of the cerebrum; a position that Dr. Carpenter has never really taken, and is too profound a physiologist to entertain for a single moment.

A word in passing, as to the ground taken by Dr. Carpenter, "that the first rudiments of brain found in ascending the animal scale, are the rudiments of the anterior lobes." In a short memoir respecting the development of the rodent brain, embodying a series of researches into the embryology of the common mouse, published in the 1876 volume of the PHRENOLOGICAL JOURNAL, I have described at some length the first nutritive centers of the embryonic mammalian brain; but I did not, if I rightly remember, indicate their exact situation. That is easily found, however, in the mature organism, particularly as concerns the anterior and middle cerebrum. A mammalian brain, as I showed in that paper, starts with four nutritive centers, two anterior and two posterior, which first appear in the embryo as four minute vesicles at the terminating points of the four nutritive currents represented in the mature animal by two internal carotid and the two vertebral arteries. Since writing that article I have, fortunately, had opportunities for examining, after careful preparation for the purpose, five human embryons of from four to seven weeks' development, with the result of obtaining the fullest confirmation of the points then advanced. It can not be stated with any degree of exactness that the two anterior vesicles are especially rudimentary of the anterior or of the middle lobes, their situation as concerns the mature brain being at points nearly coincident with the roots of the olfactory bulbs, just exterior to the optic crossing. The terminations of the two internal carotid arteries, the mammillary bodies, and the pituitary body, the internal portion of the Sylvian fissure, the roots of the olfactory bulbs, and the optic crossing, lying near together upon the under surface of a mature brain, all mark with sufficient anatomical precision exactly where the building of the organism commenced. The Gosserian ganglia, the optic and auditory organisms, the olfactory bulbs, and the pituitary body have already made considerable progress before the development of the cortex, either anterior or posterior, commences. In the posterior region, the medulla oblongata marks the situation of the primitive vesicles, the fundamental portion of the cerebellum follows; and, having united, the vertebral arteries pass forward as the basilar, building up the great vaso-motor center, the pons varolii, almost simultaneously with the superior portions of the cerebellum and the inferior portion of the occipital lobes of the cerebrum. The cortex of each hemisphere grows forward, outward, and finally upward, simultaneously, from four different points, the occipital, the sphenoid, the temporal, and the anterior, the completion of the great parietal tract I have described coming last, and taking place from before backward, just as in the brain of the rodent. In studying the adult nervous system of the vertebrate, the indicative fact that the optic nerves and the fifth pair are each furnished with a sheath as far back as the optic crossing and the Gosserian ganglia respectively, while their more posterior sections are deficient in such a membrane, can not fail to strike the acute observer as a point of the utmost importance, as showing that the anterior, not the posterior, sections of these nerves are the more primitive. Complex comparatively as the vertebrate brain is, even in the most inferior fishes, if its primitive form is ever established, it will be found to merge itself into a nervous collar of four or six ganglia, lying across the gullet, of which, possibly, the now comparatively insignificant ganglia of the fifth pair are relics of the two exterior, and the olfactory bulbs of the two interior. In some fishes the former are centers of motion to the body to a considerable extent—an evidence of their primitive importance in the nervous life of the vertebrates. I have not had an opportunity of examining with care the collection

of triassic fossils in the possession of Dr. John S. Newberry, of the New York Academy of Sciences, which contains examples of a yet cartilaginous spinal column, combined with considerable solidity of the exoskeleton, and may possibly furnish convincing testimony on this point; but I shall take an early occasion to study it thoroughly and report upon its data, which Huxley, during his recent visit to this country, regarded of the utmost importance to science. From a hasty examination, the utmost that I can say is that it appears to contain more nearly what would be expected as transition forms between the crustaceans and the lowest existing fishes than any public or private collection of fossils either in this country or Europe.

The question whether the two larger masses, posterior to the olfactory centers in the brains of the inferior fishes, are the proper homologues of the cerebral lobes in the higher vertebrates, so far from being a dubious one, must be decided in the negative. These masses are neither more nor less than very large optic centers. In such fishes, the optic crossing lies directly beneath the anterior edges of these bodies, and is rooted directly in them, they themselves consisting each respectively of a core of nervous matter enclosed in a thick envelope of the same, just as the stone of a plum is enclosed within the pulp, and the anterior end of the medulla oblongata lying nearly as far forward as their anterior edges. The cerebellum consists in brains of this type simply of an elevated cup-shaped tubercle resting upon the surface of the medulla oblongata just behind the optic centers. It has two peduncles, but is not divided into lobes. Such a brain as this, so far from being rudimentary of the anterior lobes of the human brain, is simply a series of sensory and motor masses. At the front lie the two small egg-shaped olfactory centers; next in order, directly behind, are the two large rounded masses that receive the roots of the optic nerves at the angle effected by their union, for they can scarcely be said to cross; behind and between the latter, but having no organic connection with them, the cerebellum rests upon the upper surface of the medulla oblongata. Lastly, two nervous masses, corresponding to the ganglia of Gosser, lie lateral to the five thus arranged. A nervous cord springs from the posterior end of one smell-bulb, and enters the mass of the contiguous optic center, having there a few scattered filaments, while the main part of it describes an arc through the interior of the two optic centers, and finally enters the other smell-bulb at the posterior end. This commissure exists also in the brain of the rodent; and in the human brain the interior root of each olfactory bulb is not a root, properly speaking, but the portion visible without dissection of the same primitive commissural band. The brain I have just described has no corpora striata, no cortex, either anterior or elsewhere, no lobes, and no distinguishable rudiments of lobes. What I mean to say is, that it presents no rudimentary intimations of the complex and compact organism that the vertebrate brain ultimately becomes. Taken as a whole, it is a rudimentary vertebrate brain, but not of one lobe more than another. It serves, no doubt, some useful purpose in the mental economy of anatomists of a certain class to speculate upon such questions as whether the nervous axis of an insect is homologous to the spinal axis or to the sympathetic cord in vertebrate animals; but the conclusions of such anatomists upon purely fanciful issues are not things to be quoted either for or against legitimate inductions of science.

To state in exactly how far the opinion quoted from Carpenter will be found correct, while the theory advanced by Tiedemann upon what, with the best optical assistance of his day, was necessarily unsifted evidence, that the cerebral lobes are derived from the medulla oblongata, is untenable; while it is true that the perceptive function is the most primitive function of nervous tissue in the animal economy; and while it is further true, as an induction from comparative anatomy, that, in any given type of animals, the development of some sort of a brain always precedes the development of a longitudinal nervous axis, it is not true in any manner that "the first rudi-

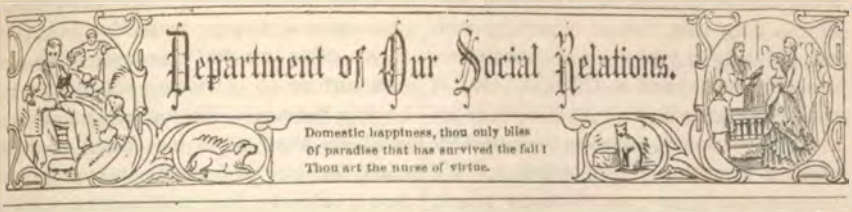
ments o brain found in ascending the animal scale are rudiments of the anterior lobes." The exact terms are not Carpenter's, I presume; for I can not imagine that the eminent English physiologist knew so little of his science, even thirty years ago, as to hazard such a statement.

It has been noted casually, hereinbefore, that the development of the cerebral cortex of each hemisphere sets out with four centers of nutrition—the anterior, the temporal, the sphenoid, and the occipital—each of which is responsible for its department, and builds up its section by founding subordinate nutritive centers one after another. The disposition of nervous tissue to lobulate is thus founded in the first principles of arterial circulation and nutrition, the founding of new centers being the natural and inevitable consequence of arterial division and subdivision. I have in my possession a preparation of one of the optic masses of a mouse, in which these minute centers of nutrition can be studied in detail, and from which any observer can satisfy himself that these minute nervous masses are themselves subdivided into almost microscopic lobules, each an independent nervous center as respects its structure, which are associated as one body by an inextricable tangle of fibers and processes. Each of these little bodies has its own arterial and nervous vessels, and is a proper nervous center imbedded, with hundreds like it, in the structure of the large visible mass. I instance such facts as these to show that, without regard to other evidence, the first natural inference of a practical anatomist and physiologist would be that such a nervous structure of the cortex consists of groups of centers.

The importance of studying the arrangement of the nervous fibers of the brain and spinal cord lies in the fact that they are lines of physiological activity, as is proved both by experiment and by anatomical inference. When, therefore, it is demonstrated that the great nerves moving the muscles ascend as portions of the two lateral white cords of the spinal marrow, and that these two cords terminate in a corpora striata, it is proved beyond a doubt that those bodies, not the lobes of the cerebellum, are the true centers of locomotion. As respects the rodents, I know this to be the fact from preparation of the whole nervous system, and careful dissection of the nerves of both pairs of legs to their termination in the brain; and I have, therefore, very good reasons for accepting the statements of MM. Sappey and Duval that they have demonstrated the fact as regards the spinal axis of man. So, again, for the most part, the anterior strands of the cord enter into the optic thalami, while the two posterior strands are distributed between the thalami, the quadrigeminal tubercles, and the cerebellum. All this is simple and verifiable enough, if anatomists would only trouble themselves to make preparations of the nervous system and dissect, instead of adhering to the crude method now practiced. It is, as I have found from the experiment, a work of months, after having carefully prepared so small an animal as a mouse, to trace out the minutiæ of the arrangement of the nervous system. With a mouse, this is best done by throwing the animal, after simply skinning it, into nitric acid and alcohol, ten drops to the ounce, which, while hardening the nervous tissue so as to make it tolerably tough, softens the bones and enables the anatomist to peel the brain and spinal axis completely, without injury to its integrity of structure. The body should lie in pickle about 144 hours. A little practice, although the process is tedious enough at first, soon enables the anatomist to unfold the whole spinal axis of a vertebrate animal as neatly as Spurzheim used to unfold a brain during one of his lectures. And when the student has once done this, he knows something of the nervous anatomy of vertebrates. Previous to doing so, he has only a confused, unanalytic recollection of what the books and the professors say.

By the way, I have noticed as a curious fact that the exponents of Phrenology usually have very good heads, and its bitterest critics very bad ones. Is it not possible that wounded vanity may, after all, be instrumental in developing a great deal of the sort of criticism one meets with in the newspapers and quarterlies?

FRANCIS GERRY FAIRFIELD.



BURDENS.

EVERY one who is thrown in contact with another person becomes more or less a burden to that person. We are all burdens to one another, but we do not like to be made to feel that we are. No matter if one be rich and the other be poor, it is still the same, each is a burden to the other. The rich makes the servitude of poverty a burden to the poor, the poor makes the necessity of his presence a burden to the rich. Something must hang heavy upon all our hands, and we are fortunate if we do not make it hang heavy upon our hearts. We do this for one another. We are made to feel that we are in the way, or are incumbrances each to some one else, and this consciousness makes life a dreary burden to too many. If we could each see that we *must* be incumbrances—if we take that view of it—we might learn to be more charitable for any weight upon ourselves. If we could all have only love's burdens, how sweet we should find them to our soul's sense, and how grateful we should be amid our weariness. The husband who loves his wife never stops to count the weight of incumbrance she is to him. The wife who loves her husband is also happy in serving and pleasing him. It is the spirit in which we toil which makes the difference. If we could all delight in pleasing those around us, what a happy world this would be. If one side must do all the serving for no thanks, or for favors returned grudgingly, or each side must growl with dissatisfaction, always at the other side's best, there can be no delight, there must be only the weight of weary pain. A sensitive person will feel dependence too keenly without being reminded of it. Some persons will take double, treble, or unnumbered-fold pay for any favor, and then shout abroad what they have done—never mentioning the pay or the unkindness of spirit in which the favor was granted—but leave people to think them *so kind*. They will make their best generosity of giving or doing such a niggardly, abusive insult to one's esthetic sense or one's sensibility that the memory forever and ever must gall the soul forced to the acceptance of it. A little done in love's way is more than everything in the begrudged way that makes the doing seem more painful than parting with one's best teeth. Don't we all know that *we* are burdens sometime? Can't we do graciously any kindness to another which we should do, which we must do, or which we do at all? Must we growl and snarl and make everybody unhappy? Was the world made for just us alone?

Can we not lighten for one another what we *must* bear, and get, if not enjoyment out of doing, the satisfaction of being appreciated and of having tried to do our best? If we could always see and know the pain we cause, would we not do better? Those who have suffered and felt themselves, might think of this. Some persons, however, do seem to enjoy another's suffering in any form or shape. To let these know upon what you feel tenderest, is to deal to yourself, through their hands, an unceasing succession of stabs in your sorest point of feeling. They like it. They revel in your grief. It is delicious, according to their taste. It makes us wonder at human nature, and question sometimes what must be fiend-nature. It wears upon one's soul and strength to think upon some subjects. We see the facts as they exist, but can not understand why they are facts. Our heads ache and our hearts ache, and we are sick all over with thinking of them. We are sorry we ever learned to know them as facts.

If the knowledge could have come and have kept us from pain, instead of coming with it and making its growth a part of ourselves, it would have seemed so different. Or if it could have come in time to have been an available wisdom to us when we needed it most, it would have seemed better. We learn so slowly, compared with the length of our lives. We act so slowly upon what we do learn. The great lesson that we are all dependent, we ignore so totally in our strength. The sweetness and the confiding trust that is born of happy dependence, we warp and turn into deformity too often in our little ones. Self-dependence in the gentlest natures becomes so twisted out of its true nature. The brightness and frankness that can ask, hoping to receive and receive thrice often for its winsomeness, we force and torture so often into cowardice or unhoping bravery. Do we ever think of the shadows that might not be, if everybody could feel free to make the best of the good that comes to him, and not be reminded that he has robbed somebody of so much? A little is a great deal from love-hands. The whole world could never be anything, if yielded to us hatefully. True love and friendship covet to take and bear their loved ones' burdens. We long to spare our precious from all woe. The spirit makes the difference. MADGE MAPLE.

YOUR PEARLS.

TRUST not the secret of thy soul with those
Who hold their treasures with a reckless hand;
Nor to each ready ear thy thought disclose,
Nor to each smiling face thy heart expand.

Pearls from the ocean's depth too priceful are
To be strewed heedless at the common feet;
Show not to curious eyes the hidden scar,
Nor to the winds thy sacred words repeat;

Else under trampling hoofs thy gold shall lie—
The holy gold of the interior self;
Crushed the rare pearls by every passer-by,
Or given from hand to hand, as vulgar pelf.

It is a lesson taught each separate heart
To shield its gems from universal gaze;
To shine in quiet glory and apart,
Revealed alone on coronation days.

Give freely to the world its just demand
Of sympathy, of kindliness, of trust:
But keep reserved for one beloved hand
The pearls too pure to be trod down in dust.

All lives may know thy gentleness and grace,
All hearts thy loving power may evidence;
But on few hands—oft one alone—dare place
The costly ring of priceless confidence.

—*Galaxy.*

LIGHT IN DARK PLACES.

"This mournful truth is everywhere confessed,
Slow rises worth by poverty depressed."—SAMUEL JOHNSON.

CHAPTER XI.

FRIENDLY INTERPOSITION—BUMPY'S SERVICES.

MR. HAMMOND was one of those men who feel much elevated and important when exercising functions of authority, even if the range of such authority be moderate. As Secretary of the Society which had organized the missionary enterprise in the quarter where the Camp family resided, he deemed himself entitled to the highest consideration of the people who availed themselves of the moral or physical aids offered the community through his superintendency. His good nature did not suffer him to feel very deeply piqued, however, if now and then a beneficiary showed him little gratitude or courtesy, for his intelligence made allowance for roughness on the score of the delinquent's ignorance, and at the same time his strong self-esteem ministered an element of indifference, which sustained his consciousness of superiority and merit. This characteristic enabled him to treat with the miscellaneous classes of the neighborhood very successfully, and his off-hand, authoritative manner had obtained

general respect with all, while many regarded him with admiration, as one possessing "ginooine aristucrisy."

It was, perhaps, a quarter past ten when the Secretary, with Bumpy at his heels, entered the police-station. The magistrate was in his chair, attending to the cases which had been brought in by the policemen of the district, and the usual motley scene presented itself there of dirty, ragged, illiterate, besotted, vice-and-crime-worn humanity; the offenders against law and order on one side, guarded by gentlemen of the shield and baton; their friends, or curious droppers in, on the other, watching the progress of the administration of justice.

Mr. Hammond made his way through the crowded benches to the railing behind which the judge's desk stood, and as soon as he had obtained that high functionary's notice, said:

"Judge, there is a boy here who was brought in this morning charged with breaking down a fruit-stand, and scuffling with another."

"Yes," spoke out one of the blue-coated protectors of public order, "I brought him in with the feller he was a-fightin', an' he's over here."

"What's his name?" asked the Judge.

"Camp—Norton Camp."

"Officer, what about it?"

Norton, on hearing Mr. Hammond speak, had jumped upon his feet, and stood eagerly looking at him and the Judge. Of course, all eyes in the room were turned toward him.

"Well, you see, Judge, these young fellers, and a lot of others belonging to their crowd, was down in Broome Street, corner Thompson; and wantin' to carry off some of the fruit and nuts and things from a stand there these two young rascals just went up and w'ile pertendin' to be fightin', one knocked the other inter the stand, and smashed it down, and then the others rushed up and grabbed apples, nuts and things, and put."

Norton had listened to this statement, his large eyes glistening with excitement and indignation, and once or twice would have broken out in denial, had not Mr. Hammond shook his head as a warning against his speaking.

"Where are the others, officer?"

"Well, Judge, you see, I was alone there on my beat, and didn't know nothing about this till the owner of the stand hollered fur me to come up. When the stand kum down, he heard the noise, and rushed out of his store, and collared these two larks, and when I kum up, told me how 'twas, and I brought 'em in. The rest had vanished."

"Let the other boy stand up," ordered the Judge.

"Certainly they don't look much alike," he continued; "the younger one with the curly hair looks as if he'd been brought up to do better than to get into a scrape of this sort. I guess it's a case of bad company. 'Evil communications corrupt good *measures*;'" and, as if prompted by the suggestion which this false rendering of Paul had furnished, he went on: "This is the reason, I suspect, why so many hucksters are hauled up for selling their stuff by the quart, and declaring that it is by the small measure." The crowd of hangers-on saw wit in this, and laughed.

"May I be permitted a word?" asked Mr. Hammond.

"Yes, sir, fair speech is free in my Court-room."

Another sally from the crowd in loud approvals.

"Silence!" cried an officer. The Judge smiled benignly.

"I would only say that the smaller of those two boys is the only son of a very respectable woman, who, as I personally know, has spared no pains in his moral education, and I share her opinion that he is not guilty of any intention to steal, but was a little imprudent this morning in endeavoring to obtain justice on his own account for what he considered a gross act of wrong done to him by the large boy at his side."

"All very fine, sir; but my experience with these sons of *very respectable* women is not favorable to their moral conduct, whatever may have been their moral education."

"Will you let him say a word in his own behalf?"

"Yes. Speak up, boy, and tell us about it. Be quick, as time presses."

"I tell you the truth, sir, that I didn't think of stealing the fruit, nor doing anything wrong. I wasn't playing or talking with this boy or the others, though I know most of 'em, for they live near our house. I was standing near that boy by the gentleman," pointing to Bumpy.

Mr. Hammond here explained in response to an inquiring look from the Judge, "I brought him here, sir, because he came to me and said that he was present when the scuffle took place, and saw the whole of it. But hadn't we better hear the rest of the boy's account?"

"Yes. Go on, sir, with your story," commanded the Judge.

"Yes, sir," returned Norton. "I was standing near Bumpy, that boy —"

"Strange it wasn't he who bumped you against the stand," commented the Judge, whereat the lookers-on laughed again.

"When this boy here came up and told Bumpy to hook some of the oranges and fetch them to him, Bumpy said he wouldn't. Then he asked me to do it, and said he'd spoil my face if I didn't do it quick. I told him I wouldn't steal for him or anybody else. He then just run against me before I knew what he was a goin' to do, and pushed me against the stand; and I couldn't save myself from falling—indeed I couldn't, sir. And I felt so mad against him for doing such a mean trick, that I jumped up as soon as I could, and went at him to give him a good lick—whipping. He's a good deal bigger'n me. I—but I didn't think of that, I was so angry."

"You had a right to be angry, boy, if what you say is true. Say, you big lubber, how is it?" asked the Judge, addressing "cross-eyed Tim." "Look at me straight now, and answer."

"I don' know," replied Tim, stolidly.

"You don't know whether he was too much for you, who are big enough for two of him?"

"I'd licked him like blazes, if that cove and the cop hadn't stopped it. Kin do it easy."

"Tell me," said the Judge sternly, "if what the boy has told is true or not?"

"You know it's true ev'ry bit uv't, Tim," cried Bumpy.

"Look here, bub," said the Judge to that irrepressible, "perhaps you know more about it than is good for you; so keep your tongue quiet, or you may have your head bumped. Now, Tim, if that's your name, what have you to say?"

Tim was not going to incriminate himself for the sake of another. He had too much of the low cunning of the experienced street-boy for that, and an unscrupulous mendacity ready for use to save himself, if possible, from the penalty of his own wrong-doing. In answer to the Judge's peremptory demand, he slowly drawled with impassive countenance—

"All a lie! He wanted ter nab'n oringe, 'n' I told 'm I'd smack 's jaw ef he darst ter. Then he jist went ter the stan', an' I after 'm. Then he trips aginst the things, an' knocks 'em over onter the side-walk, an' 'fore I know'd wat he wuz a-goin' ter do, he jist pitches inter me. The cop knows the rist ov't. That's all I knows on't;" and Tim assumed an air of injured innocence which comported ridiculously with his vicious physiognomy and small crossed-eyes, while Norton stared at him bewildered by such an exhibition of cool malice.

"Where's the man who ordered you to arrest these fellers, officer?"

"He said he'd come down and make his complaint to-morrow morning," replied he of the star.

"Then the case must go over. Lock 'em up."

"But, Judge," interposed Mr. Hammond "must this young boy, or both these boys be shut up to await the convenience of their accuser? Is it not doing them a great wrong, and exposing one, at least, to influences which may have a very pernicious effect upon his moral character?"

"I don't want to hear any sermons here, sir," roared the Judge; "time's too valuable to be taken up in that way. Go see the man yourself, if you want to. These young vagabonds need a lesson."

"My good sir, this is the first time that boy has been accused of— "

"The old story—Always must be a fust time. Better nip it in the bud by giving him a taste of jail discipline. What's the next case?"

Mr. Hammond did not like this manner of treatment, of course, but he was not so new to such scenes that it was altogether unexpected. High judicial talent and a delicate discrimination he did not look for in a Police Court; yet, like all who are solicitors for moral reform, he felt that wisdom was greatly needed there to guide the administration of authority. It is the abuse of justice and kindness, under the cloak of authority, which greatly embarrasses the work of the humane among the poor and ignorant.

On emerging from the building, Mr. Hammond discovered Bumpy leaning against a horse-post on the opposite side of the street, and called him. The boy ran across, and said in a low tone:

"I reckoned as how they war a-goin' ter jug me, an' I just slipped out w'ile that cove was a tellin' his thunderin' big lies 'bout Woolly."

"You're a keen one surely, and can take care of yourself."

"I tries ter, sir, but lor', that Woolly don't try a pin to git outer trouble when 'taint his fault enny more'n 'tis that 'kiyi's.' He's a good 'un, though, I kin tell yer, an' I'd like ter see cross-eyed Tim git strapped for tellin' on'm that way, I would."

"Well, my boy, I have some business to look after, and must be going. You can go to Mrs. Camp, and tell her that the Judge ordered the boys to be remanded for further examination to-morrow morning, when the fruit-seller is to appear against them, and that he refused to entertain any application for Norton's release; but that probably to-morrow an arrangement will be made in that behalf; tell her not to be over-anxious, as it will come out all right."

Mr. Hammond walked away and Bumpy turned up toward Houston Street. "Less see," he meditated; "'Manded fur 'xamination'—yes, that's wot the feller sed; and suthin 'bout applercatin ter let'm loose termorrer. But I guess this yer cove knows 'nough 'bout them things hisself, Mr. Watsyer-name, ter tell'm, 'thout gittin' 'm criss-cross."

CHAPTER XII.

COMMUNICATION WITH THE PRISONER.

BUMPY made a very explicit report on the situation in his own graphic style, and added some remarks, born of his hard experience with a father whose drunken habits frequently brought him into collision with the police officials, which were very acceptable counsel to the troubled widow. As it was near noon, she made a package of some of those excellent biscuit, to which we alluded in a previous chapter, divided and spread with cherry-juice (Norton liked to eat the juice of stewed fruit in this manner), and handed it to Bumpy, with the request that he take it to the police-station for Norton. She had also prepared one, which she gave to the boy who was proving himself worthy the title of friend by his ready willingness to serve her in this hour of need.

"My eyes! aint this jist good for a feller's stomjick," mumbled Bumpy, as he wended his way down the stairs, his mouth crammed with the fruit and bread. "Talk 'bout Johnson's cream-cake, will yer—'taint nothin' to this; ef't don't jest touch the spot, this indivisible aint no judge of sich fixins! Gelory gum!"

This was the tenor of his musings while the biscuit lasted, and until he reached the place of Norton's confinement, where he addressed himself to a clerk with whom he was acquainted, and having shown the package, and a note which Mrs. Camp had written to Norton, he was permitted a brief interview with the prisoner.

As might have been expected, the sensitive boy was restive and sad under this new experience. He was restive, because his high-strung nature rebelled against the thought of being deprived of his liberty, and that from no positive wrong of his own commission. He was sad, chiefly on account of the anxiety occasioned to his mother and sisters by this mishap. "If I could only have a chance," thought he, "to

see mother for a few minutes, and tell her that I didn't do anything wrong intentionally, I'd feel so much better. Mother would believe me against all the policemen and fruit-sellers in the world." If Mr. Hammond had stopped for a minute to talk with him, that would have helped much to alleviate his distress. But Mr. Hammond was in a hurry when he left the magistrate, and did not think of having a talk with the accused. In fact, he judged that his presence there should itself give much encouragement to the boy by the interest in his case which the Secretary of the Mission thus manifested. Norton did indeed experience a very happy sense of relief when he saw that important man speak in his behalf, and he expected release as a necessary result of such advocacy; but when he found himself sent back into the apartment where was grouped a score of men and boys, whose rough garbs and rougher language and demeanor denoted that for them accusation and arrest had some certain warrant, his heart sank. Bumpy's entrance, however, broke the chain of his melancholy reflections, and with an exclamation of joy, he sprang toward him.

"Oh, Bumpy! you here, and something from mother?"

"Yes, sir; suthin' good to eat, and suthin' good to read, I guess, too."

Norton grasped the parcel and letter with haste, and tearing open the letter, read:

"MY DEAREST BOY: I know all about the affair, and believe you innocent. Keep up a good heart; be patient. Trials well borne bring out the noble in us, and make us strong. I shall come to see you as soon as I can. Any message you have to send will be carried by Bumpy, who shows himself a true friend to you. MOTHER."

"She doesn't believe I tried to steal!" cried he.

"No, guess not; why should she? Didn't I tell her all 'bout it?"

"Did you, Bumpy, how that Tim threw me against the stand, and I wasn't to blame for that; and how I couldn't help going at the mean feller, though I'm sorry I did, 'cause it looks kind o' bad for me."

"Ef yer'd jest a-rund away like us other fellers, Woolly, yer'd a-got clear, an' not a-bin jugged this way."

"Yes, but I wouldn't have run, because it wasn't my fault."

"Then yer'd bin tuk up, any how, fur that feller wat sells the oringes war jest blazin' mad, yer know, and wudn't a stopped ter ax quistions."

"I s'pose so," replied Norton.

"Well, mother knows the right of it, and you, too, Bumpy; so I guess I can stand a little of life in here."

"'Taint so bad es sum folks think," said Bumpy, encouragingly; "I've staid in a wusser wid pop, wen he'd bin tuk in fur spreein', many a night. But say, Woolly, s'posin' I jist go up ter Mister Stanley's, where yer goes fur the waste stuff, an' tell 'm 'bout this. P'raps him and that misshun chap 'll work up yer case, as the law men say, and git yer out all right, hey? Wot yer say?"

"I don't want to trouble him."

"Nothin' like havin' good men workin' for a feller in a trap, my pop sez. Guess I'll go hum to grub, an' then run up."

"Won't you go and see mother first, and ask her what she thinks about it?"

"Yis, ef yer wants me ter."

"That's a nice fellow, Bumpy, and tell mother not to worry, as I shall get along pretty well; I've something good to eat, anyway."

"Yer can jest bet on that, Woolly, fur this individible had one of them biscuit hisself; an' honey an' peanut-taffy aint no switch to 'em. Well, I'm orf. Take keer on yerself."

"Good-bye, Bumpy, and come in again, if I don't get out soon."

Bumpy disappeared through the iron-bound door, and Norton sat down in a corner to discuss the "something good" in the parcel. He was hungry, and each morsel was the more welcome to his palate because it came from the hands of a beloved mother who believed in his integrity.

Bumpy went to his squalid home, and swallowed the coarse fare provided by his "marm," and then ran over to Mrs. Camp's, where he delivered a voluble speech on the physical and mental state of Norton, wind-

ing up with his suggestion with regard to obtaining the assistance of Mr. Stanley.

"Lor', missus," said he, "he's yer man. That misshun feller aint any great pertaters down 'mong them perlice, cos he don't know nothin' 'bout talkin' ter 'em. They jist need sassin' they does, an' nary uv yer Sunday meetin' talk."

"I should be sorry to call upon Mr. Stanley, my boy, unless it were absolutely necessary. Norton will endure patiently, I think, a few days' imprisonment, if he must. Certainly a little thing like the loss of a few oranges will not be made an occasion for severity toward a child like Norton."

"I dunno, missus. Sometimes them fellers is mighty hard on boys, and sling 'em up fur a month, an' wuss, jest fur nothin' 'tall. Ef that chap wat keeps the stan' comes down and swears hard, it 'll be purty bad for 'em, p'raps, ef ther aint noboddy roun' ter tak' Woolly's part."

Naturally enough, these candid words, spoken directly from the practical experience of the boy, were persuasive in their effect upon Mrs. Camp's hesitating will. She had a deeply-grounded aversion to engaging the attention or interest of people in her personal affairs, and often experienced serious inconvenience and loss because of this disposition. She felt, indeed, that she had no right to draw upon the time and industry of others, except in an emergency, and the emergencies which brought her to such a course rarely occurred. Most of the occasions in which the average housekeeper deemed herself warranted in calling in a neighbor for assistance, this earnest and sensitive woman considered trivial, and easily disposed of by energetic management. A case may illustrate her method. One day Dell found a piece of glass in the hall, dropped, probably, by some careless glazier who had made the tour of the building in his search for a job. The little girl picked it up, and started on a run to show it to her mamma, but unfortunately stumbled over the door-sill and fell, the sharp glass cutting a deep gash in her upper arm. She screamed from pain and the sight of the blood, and immediately drew Mrs. Camp's attention. Instead of rushing to a neighbor and imploring her to go or send for a doctor, the mother instantly took up the child, and sitting down with her in her lap, calmly examined the wound. Finding that it involved no important blood-vessel, she took some cold water and a small, soft sponge, and washed it clean; then, with a needle and some silk thread, quickly and skillfully drew the lips of the wound together, Dell, in response to her soothing, cheery talk, quietly submitting to the little pain thus given her, and watching very closely the operation. The wound being closed in this manner, a soft, light bandage of muslin was put around the arm, and an hour afterward Dell appeared as lively and happy as was her wont.

"I niver see the bate of that woman down there, that Missus Camp," said Mrs. Moriarty, to whom Dell showed her arm the next day after the accident. "Anybody ilse wud ha' screamed an' set us all crazy-like; but the little darlint is taken so quietly, and trated better than the docthers cud do it, and niver a word do yer hear till 'tis all over wid."

Mr. Stanley had shown a real interest in Norton, and the poor widow now felt that a sort of crisis had come in her boy's life, and that a strong effort must be made to save him from a possibly severe infliction of judicial discipline. She reflected a little upon Bumpy's admonition, and then signified her willingness to have him apply to Mr. Stanley in Norton's behalf.

CHAPTER XIII.

THE EXPECTED VISIT—AN ADVOCATE.

THAT afternoon at about four o'clock a moderate knock was heard at Mrs. Camp's door, and Dell sprang to open it.

"My little one, does Mrs. Camp live here?" inquired a gentleman whose full-bearded face would have at once suggested the second person in the firm of Taylor & Stanley.

"Yes, sir. Will you walk in?"

"Thank you," and Mr. Stanley entered the room. Mrs. Camp arose from her chair and advanced to meet the gentleman.

"Good afternoon, Mrs. Camp; my name is Stanley."

"Good afternoon, sir," replied the lady, a little awkardly perhaps, for she had the impression that the call was in response to Bumpy's application, and, as was usually the case at first in her relations with others, any sense of obligation induced a temporary embarrassment; "Please to take a chair, sir—Mr. Stanley," assigning one for his use. "I feel greatly indebted to you, sir, for the warm interest you have exhibited in Norton."

"Don't speak of it, my dear madam. The boy commended himself to me at first sight, both by his honesty and by his strong physiognomical resemblance to a former friend, his father. You may not have heard of me, Mrs. Camp, for our intimacy was of comparatively short duration, only while we were members of the same company. I had been transferred to that but six months before the battle at Gettysburg, yet in that six months Lieutenant Camp won my deepest respect, and I can add, my gratitude."

"My late husband mentioned your name in two or three of his letters," said the widow.

"Do you remember the connection in which such mention occurs?"

Mrs. Camp had lately re-read much of her husband's correspondence while he was in the army, to ascertain his relation to the very person now in her presence—his interest in Norton leading, of course, to the repetition of what was always an avocation which mingled sweet and melancholy reflections.

"His letters were somewhat brief, owing to the rapid movements of his division of the army at that time, and his allusions to acquaintances were necessarily brief."

"He was one of the busiest officers I ever knew, madam. Conscientiously so. His time ever seemed full of duties and services. No man in our regiment was more regretted than Lieutenant Camp. But if your memory serves you, it would be a matter of gratification to me to know in what way my name was mentioned at any time. I would not, of course, appear presumptuous, and, perhaps, as this is the first time we have met, it is a piece of boldness quite unwarranted in me to ask this."

"A friend of my husband, sir, could scarcely be culpable of discourtesy. In one of his letters he writes something like this (Mrs. Camp usually spoke of her husband's sayings and doings as of one who was living):

"'Stanley and I have been discussing the relation of character to organization. For one who has never read Combe he is an apt pupil, some knowledge of physiology which he possesses being of great aid in clearing up the few doubts I have entertained, as you know, with regard to the operation of certain faculties.'

"In another letter he writes:

"'I should tell you in passing that I think our talks have been of service to the sergeant, for he no longer views life in the cynical way which was his wont, early in our acquaintance.' He does not go into details, sir; but I infer that Mr. Stanley viewed life at one time from the cold, critical plane of his intellect."

"Worse than that, madam. When I entered the army I had become embittered in spirit, or rather mind, on account of the inconsistencies of people generally. I had lost confidence in popular morality, so much of falsehood and wrong were perpetrated by those who claimed the best moral and inteilectual culture. My reading of philosophy had inclined me to take at first utilitarian views of the principle termed conscience, and my observation of practical human nature had about convinced me that selfishness was the basic element of individual endeavor, over which a thin film of strained and mawkish sentiment was spread, which partly disguised its harsh and repulsive outlines. I deemed that culture helped men to disguise their selfishness, and to lubricate their methods of dealing. I saw little that was desirable or lovely in life, therefore, and was fast degenerating into misanthropy. I had my share of the world's selfishness, of course, and that led me to become a soldier. I wanted to exercise authority, and where is a man more thoroughly a master than when exercising the function of an officer in a company? Well, to be brief, I fell in with Lieutenant Camp, was in immediate association with him, as

you know, being orderly of the company. I had been subject to rigid treatment from my other superior officers and expected it from him. But no; he approached me in a totally different manner; appeared to comprehend my mental diathesis in the start, and in a few weeks I found myself regarding him in a way that was new to me; in fact, as a kind, solicitous friend. I owe to him that most important of acquisitions, a knowledge of myself. He taught me how to analyze my own character, pointed out the reasons for my taciturnity and cynicism, and counseled me with reference to their correction; and all in so simple a fashion that it was truly a wonderful revelation to me."

"My husband was a most earnest advocate of the phrenological system," said Mrs. Camp, whose feelings were warmly interested in the remarks of her visitor; "and who could be otherwise who has been brought into practical contact with its workings as a revealer of mind and an instrumentality for the improvement of character?"

"No one, surely," replied Mr. Stanley. "I sent for treatises on the subject, and in the intervals from duty read them carefully, and, at the same time, applied the principles in my relations with our men. I endeavored to co-operate with the lieutenant as far as I could, and I think that we were very successful. It was said that our company was the best managed in the regiment. There was scarcely a man, madam, who would not have risked his life for Lieutenant Camp. But I am interrupting you in the midst of duties which are of importance to you, I know."

"I am only too happy to have an opportunity to speak with one who knew my dear husband, sir. Such an occasion comes so rarely now that it even sets aside the consideration of matters of urgent moment."

"I came, madam, not as a curiosity-hunter, but to see the lady who had honored the man, whom I remember as a benefactor, with her hand and heart, and who stood in the relation of mother to a youth who has recently commended himself to my notice. I shall not express my concern in finding this lady in such an environment, for I am impressed by what I see and know that this condition is not one of indiscretion. But will Mrs. Camp permit me to hope that if a change may be brought about, she will, for the sake of her children, accept it?"

"My children are my chief concern, sir; but the condition in which you find me is not so pitiable as you may think. We are, at least, tolerably comfortable; and we are not inclined—excuse me, Mr. Stanley—to accept charity unless compelled by necessity. Any improvement in our circumstances we would prefer to earn rather than feel indebted to others for it."

"But, my good friend, you deserve the best circumstances society has to offer," said Stanley, with a tone of warmth in his voice.

"I conceive that I deserve only what I earn," said the lady.

"Precisely; and a woman who possesses that intelligence and experience which can render life happy, even amid scenes of wretchedness and want, should be assigned a place where her influence will have a less restricted operation. Society needs her improving hand as much in Madison Avenue as in Mackerelville. You, Mrs. Camp, are not in your place here, because of your children, and because your usefulness can not have proper range. Your hands are tied by necessity. But pardon me for these personalities, and permit me at some future time to discuss with you measures tending to a change of residence. I feel, madam, a deep sense of obligation—have carried it, indeed, since my soldier days—and have always intended to render some return to Lieutenant Camp or his should my ability and an occasion permit. No protest—"

A tap at the door here drew attention. Dell opened it, and Bumpy entered in his customary manner. Like boys of his class, especially when entrusted with a service of importance, he plunged into the midst of what there was to be communicated. So jerking his cap off, he addressed Mrs. Camp with:

"Soon's I got hum, Missus, me mother gin me an errint down ter Hudson Street wot tuk me over'n hour. Then I went over ter Stanley's (Bumpy had not the pleasure

of Mr. Stanley's acquaintance, and at the mention of his name that gentleman looked inquiringly at Mrs. Camp, who, however, made no sign, preferring that Bumpy's message should be the agent by which the situation of Norton would be made known), an' they told me that he was out, but might be in agin 'fore long; so I waited 'n waited 'bout 'n hour, till I was tired, and then I kum here."

"Were you looking for me, my boy?" inquired Mr. Stanley.

"Ef yer name's Stanley, I jest was." The merchant nodded, and Bumpy went on. "I s'pose the Missus has told yer 'about Woolly bein' tuk up."

"No. Has your son — I presume he means your boy, Mrs. Camp — been arrested?"

"Yes, sir, I regret to say it; but not for any misdoing of his own."

"Why; how was it? This must be looked into."

At a sign from the lady, Bumpy related the affair and the subsequent proceedings in the court-room, and then Mr. Stanley said:

"While I regret this occurrence because of the anxiety it gives you, madam, I am pleased somewhat because of the opportunity it furnishes me to be of service to you. Permit me, then, to take this matter into my own hands."

"Oh, sir," said the widow with suffused eyes, "I would not trouble you for—"

"Trouble! This will afford me a change of occupation which will not be disagreeable. Business does not press, so that I have all the time needed; and, besides, I think that a little energetic management this afternoon and to-morrow morning will give Norton the freedom of the city again. And I'll be about it now. Trust to me."

His warm and frank manner, added to Norton's hearty delineations of his excellence, had quite won the respect of Mrs. Camp; and then his generous proffer of help—what less could she do than to take Mr. Stanley's hand on his departure, and if her eyes did not speak her thanks fully, her gentle clasp supplied what was wanting.

H. S. DRAYTON.

(*To be continued.*)

POCKETS AND CHARACTER.

WE take the following from the *Home Journal;* there is some truth in it, as well as material for amusing reflection:

"Whether we consult the fashion of our fellows' pockets, their contents, or the peculiar ways in which they are manipulated, we shall find them rich in suggestions. A curious observer might profitably spend a good part of his time in a fashionable tailor's shop—in the ostensible capacity of deputy assistant-measurer, perhaps — but really with an eye to divining the souls of the various customers from their several tastes in pockets. He would note, in the first place, that in the matter of pockets, and in that alone, does the fashionable tailor aforesaid permit his votaries any freedom of choice. He knows, being wise in his generation, that discretion is the better part of despotism; and that a man will sooner submit to wearing a fashionable strait-jacket than to being overruled — even in a fashionable direction—in his pockets. Accordingly this young swell of the haw-haw type orders his trousers-pockets to be cut vertically down the seam; while that other who belongs rather to the horsey order, and wears heavy rings, broad sleeve-buttons, fancy scarf-pin, and glittering watch-chain, must have his open horizontally in front of the hip. Mark, again, the gulf that divides the gentleman whose handkerchief peeps from an outside breast-pocket from him who wears it mysteriously within; how different are both from the respectable personage who produces his bandanna from the skirts of his black frock; and how superior are all three to the wretch who smuggles his 'wipe' into the pocket of his trousers! Here is a schoolboy; he cares little for the appearance of his pockets, so that they are deep and stout, as his

nature is ardent and insatiable. Yonder comes a yellow-clawed stockbroker who will have buttons put to his pockets! and after him a commercial traveler, whose pockets are a specialty. Next — but we must cut this procession short.

"When we see an unkempt, anxious individual, who refers on all occasions to a sequestered inner breast-pocket, as though he owned nothing that was not invaluable, we know him for an injured bankrupt or a deserving refugee. A timid, retiring nature is prejudiced in favor of waistcoat pockets, because he can get in and out of them readily and inconspicuously. Large, pompous men, on the contrary, love to fetch things from their tail-pockets, with a grand sweep and a flourish. The bald-headed, complacent philanthropist rejoices in wide, baggy pockets, to hold the overflowings of his heart; footpads and suspicious characters like baggy pockets, too, generally in their overcoats. A rich country squire, with cheery voice and broad shoulders, prefers doing business with the side-pockets of his Knickerbocker sack-coat, which are accessible, off-hand, and without bothering. And as there are pockets proper to different types of men, so also are there pockets peculiar to all the seven ages, from the child, with his single trousers-pocket, to the lean and slippered pantaloon, who feels for his tremulous snuff-box and gold-bowed spectacles.

"Pockets are a great assistance in striking attitudes, and a man's attitudes betray him. Insolent wealth thrusts its hands into its trousers-pockets, rattles its money at you, and measures you from your head to your boots. There is a species of jaunty exquisite, who poises his white forefinger and thumb in the pocket of his waistcoat. There is a bluff, stern-browed man who shoves his fists defiantly into the side-pockets of his roundabout jacket; there is the elderly, old-fashioned gentleman, who gets his slender hands into the pockets of his broad-cloth skirt-coat, and turns his back upon the fire.

"On the whole, it appears that the smaller a man's nature is, the more self-conscious and fussy, the greater his dependence on pockets. The more pocket, the less man; petty people run to pocket. But the man who ignores pockets proves the wealth of his internal resources. Heroes make little account of them—put their hands in them only for the purpose of taking something out to do good with. The hands of simple, great, preoccupied men hang by their sides, awkwardly perhaps, but quite respectably. Pockets are anti-Christian—at least the Apostles had none—and we shall look for them in vain in the New Jerusalem. The ideal is pocketless."

THE POETRY OF LIFE.

WATCH the foaming cataract! See how sparkling, how evanescent, how intangible, yet what a soft veil it forms to the black, thundering surges below; observe it clothing each tree with mossy verdure, and gemming every leaf with a diamond! Over all it hangs a rainbow and then soars away a freight of cloud-blessings for the waiting earth. Such is imagination. It softens and beautifies the harsh, restless, stubborn facts of life; it bends an arch of hope whose key-stone reaches Heaven.

Imagination creates an ideal, a king to whom all the other mental faculties delight to render homage. Poetry, not always that of rhymes and measures, is its natural language. Poetry is the voice of Nature, and therefore immortal. How many of the ancient poets have survived their contemporary prose writers! Why? Because the electric chain of sympathy strikes a spark wherever it touches the great heart of humanity. To-day despair, with the doomed Queen of Carthage, ambition with Ulysses, or religious enthusiasm with Æneas, springs as promptly as in the time of Cæsar.

Imagination develops with the earliest dawn of intelligence. The little prattler on your knee often startles you by the beauty of her conceptions. A child too young to know the meaning of death, stand-

ing for the first time by an open grave, asked: "Will he not come up again?" "Yes," was the response, half in fear lest the spectacle of burial should make death a gloomy terror. Still the infant imagination was busy. At last her eye brightened, and with a glad smile she said: "Just like the flowers; will he not?" No terrors for the little one had the cold, damp earth, the narrow coffin, the ghastly shroud, for her mind, fresh from the Creator, grasped instinctively the twin ideas of resurrection and immortality.

Reading over-wrought fiction and hot-bed mental development give rise, in extreme youth, to a sentimentality that partakes of the ludicrous; and the boy-lover of fifteen addresses his fair inamorata in such impassioned strains as the following:

My sweet Araminta,
My love and my treasure,
I think of you always,
My joy and my pleasure.

Your eyes are of azure,
Your hair gleams so brightly—
(Oh! fie on this rhyming,
I can't do it rightly.)

I think of you always,
At night and in daytime,
At home or when traveling,
At school or in playtime.

Now tell me you love me,
That only will save me
From joining the army,
Perchance, or the navy.

If father won't let me
Do one or the other,
You'll find in the river,
Some morning, your lover.

Araminta, deeply moved, pens on her window-ledge by the moonlight an answering sonnet more elegant, more sentimental, and with an equal amount of real feeling. A few months elapse, and the youthful pair look upon their dream of love as a thing of the past. Older and wiser heads laugh in scorn, for they can not fathom those warm, throbbing hearts, and behold there still shrined in undimmed lustre the beautiful ideals which, for a brief season, seemed to assume the forms of Araminta and Euphrasius. The same ideal follows the boy to manhood; it lures him from the haunts of vice and checks the greed of gold. As Araminta stands at the marriage-altar her soul is filled with a holy vision of a trust more tender, of a love more forbearing than the world has ever known, and ever, amid the crowded cares of maturer life, she is pressing upward toward this pure ideal.

Middle age, with its many burdens, too often crushes to the dust the imagination, and men become mere machines. Let this not be so. If you can not write poetry, think it; if you can not think it, read it often; if you have not time for that, sing hymns at your work. While her little ones were sleeping, a weary mother penned, in reply to an unjust accusation, the beautiful hymn—"I love to steal awhile away," which thousands of her toiling sisters have sung and found therein the relief of sympathy.

How sweetly through the quiet of old age steal the poems and ideals of youth! A few have been attained; most of them soared higher at each effort to grasp them. An aged pair alone by the hearth whence so many have gone out, clasp each other's hands as they talk of the long journey "up the hill thegither," and the "mony canty days" of the "auld lang syne." Then the old Family Bible with its long register of births and deaths is laid on the table, and with dimmed eyes and wrinkled fingers they trace the inspired poetic description of the land they hope so soon to enter, the land to which their ideals have already fled.

The power which created imagination has showered the means for its cultivation. From the hues of sky and earth he who can not write may learn to paint his thoughts with form and color; from the myriad sounds of nature the mute poet may gather the notes which will enable him to express in anthems imaginations otherwise unutterable. The winds whisper a soft lullaby; the brook murmurs a flowing dactyl; the measured tread of the iambic speaks from the rocks and hills; the birds trill a merry roundelay; and the thunder of the cataract, the cloud, and the earthquake are the blank verse in this mighty poem. The ages are rounded into cycles, and the worlds march in measure at the fiat of the Almighty. Holy men inspired by God clothed their imaginations in the most sublime poetry ever written. From the chaotic birth of nature till time shall be no more and human conception falls powerless, the Bible rolls its mighty epic, with the glorious refrain ever and anon bursting from its pages: "Praise the Lord! angels, heavens, earth, the depths! Let all that breathe praise the Lord."

LODOLA.



True philosophy is a revelation of the Divine will manifested in creation: it harmonizes with all truth, and can not with impunity be neglected.

INDOLENCE IN LITERATURE.

PART II.

WE do not say that writers always cease to be conscientiously exacting of themselves in diligence and discrimination, when an approving world kneels at their feet. There are ever a few excellent models for artists to imitate when original genius, or pluck, is wanting. There are heroic workers who, having won the leadership of intelligence, are sensitively alive to the delicate yet grave responsibilities which they feel called upon to engineer. They do not fail to have their lamps trimmed by day, head-lights ablaze by night, and to keep a faithful lookout upon the swift, hastening track that glides under their feet to an eventful destiny. They are determined that no mere carelessness of theirs shall make victims before or behind them. Their convictions are grounded upon infinitesimal analysis; their sentiments are dedicated to unequivocal truth; their imagination is the in-gathering of possibilities from the horizon bounds of spiritual instinct; their poetry is the outleaping of the soul of man to the incomparable richness of external nature; their research is the gathering up of the minute works of God on the common shores of time, where are scattered rock and wreck of incident and accident; their comprehensiveness is the daily work of linking strongly together the extensions of the multitudinous chains of separate philosophies and systems; their philosophy itself is the clipping of ideas from old connections, enlarging them, and transforming them with successively new settings; their humor is imbibed from the ludicrousness of their own and others' blundering acts, the consequent confusion and mortification, and at last the happy *denouement*—for "all is well that ends well;" in short, they make the most of everything, and—*are not afraid of drudgery*. That last item is the pith of the matter. Bridget "would like to dust the arrnamints in the parlhar, but who wud be afther scrub'n the kitchen floorh when they've a moind to be a foine lady?" Bridget's declaration of her sentiments of honor and ambition is a democratic echo reverberating through an aristocratic house.

The writer has not attempted to give a dissertation, by any means, upon the inexhaustive subject of the literary art; but has aimed below the professional critic's mark, believing that here is room for something considerable to be done. There is much to discourage the would-be original thinker—more, perhaps, than the public would willingly acknowledge. He must cleave his lonely way through the thick strata of universal ignorance. His own

> "Outward sense
> Is but of gradual grasp."

Some philosophers claim that the intellect grows while the individual is asleep and unconscious; that the brain accomplishes its most notable work while the body sleeps; that it has short cuts—mysterious, secret—to an idea or plan which the man awake might try a life time to run across, and try in vain. However true, this will not fill the measure of the man who possesses the right to think—even wrong. If he has a spark of self-respect he will not be tempted to deed his soul away to any tramp who walks into it for a night's lodging. Yet he who coins his own thoughts, and discovers his own stars of truth, must have "a self-sustained intellectual might." His servants are not living coadjutors; they are inanimate things and intangible instincts; and it is

critical work to make their relative aptitudes clear. It takes a powerful concentration of mind, and a comprehensive judgment, to see the inner and outer forces—of whatever is under consideration—at once, and to be able to grasp the whole sweep of their relative mutabilities. What makes it most difficult is that the judgment of the writer grows with his work—with his experience—and must fit and furnish itself while it adapts its subjects and objects to each other. It must provide an appropriate time and place for the advent of a new principle, or let "the truth" go by unnoticed, or unheeded, for want of a proper exhibition.

To the people a new idea is like a strange blind man on a public thoroughfare; they can not tell what his pretensions cover. He may be deserving of attention, but caution outweighs the sympathy of a public people. Then, too, extreme originalities are not attractive to an imitative mind; they trench upon what is permissibly in good taste. The imitator seeks something which has an outward glow, something which can be quickly seen through and copied. He abhors the rude, the unpolished, and undeveloped, and prefers superficial brilliancy and dash. He would stick glass beads upon the corners of the evening star to relieve its plainness, or put a lion's head upon a serpent to make it look noble. He too often confounds the rugged and the strong with vulgarity and want of delicacy. There is an old legend that ought to be printed in letters of gold for the present peculiarities of the public: "When the lofty and barren mountain was first upheaved into the sky, and from its elevation looked down on the plains below, and saw the valley and the less elevated hills covered with verdure and fruitful trees, it sent up to Brahma something like a murmur of complaint: 'Why thus barren? Why these scarred and naked sides exposed to the eye of man?' And Brahma answered, 'The very light shall clothe thee, and the shadow of the passing cloud shall be as a royal mantle. More verdure would be less light. Thou shalt share in the azure of heaven, and the youngest and whitest cloud of a summer's sky shall nestle in thy bosom. Thou belongest half to us.'" This legend illustrates the old saying, that "Beauty unadorned is most adorned."

Still, altogether considered, there is a deal of friction under the wheels of new ideas and unproved theories, and the man who devotes himself to truth-speaking, regardless of popularity, finds his "grit" ground to powder before his ideas are taken in and hospitably entertained. But contumely, scorn, or, most discouraging of all, indifference—none of these will close the philosopher's mouth when he has somewhat important to say. Emerson, one of the best of our mental philosophers, warns us that "Man's culture can spare nothing, wants all the material. He is to convert all impediments into instruments, all enemies into power. The formidable mischief will only make the more useful slave." Emerson, it is well known, is one of the most painstaking of writers—one of the soundest. He does not slaughter truth as an offering at the altar of poetic fancy; nor does he write nonsense to please a "mixed audience;" or because Artemus Ward and Mark Twain have succeeded in that line. He does what the majority of writers might imitate to advantage—keeps within his own sphere, and a noble one it is.

But he who observes most closely, examines microscopically, and unfolds entirely to his own gaze the things and thoughts of ever-wonderful life, does not always succeed in giving graphic descriptions. He may excel as a student, but fail—or contrive, painfully—to teach. Yet impatience alone will not hasten the good which he would bring about. "The measure of a master is his success in bringing all men round to his opinion twenty years later." There is faith in that—faith born of an intelligent will. But we digress. The descriptive powers of Byron, Shakespeare, Milton, Dickens, are marvels to the world. Dickens—active, keen-eyed, sympathetic, social Dickens—entices his readers, old or young, shy or curious, into the mosaic heart of London—into Fagin's den of thieves, or some other *hades*, where they can see more of real human nature in a few hours than they would care to encounter in a life-time; and yet every individual is so human—the darkest

characters are rescued from total depravity with such simple fidelity to that hidden bit of "true steel" which awaits the striking against the "flint" to reveal itself—that the reader is half fascinated with the bad company, which excites alternately his horror, his contempt, his pity, and his curiosity, and makes him anxious to be rid of it. Dickens studied his text; selected his brushes, his paints—using the right brush with the right paint—and he applied himself diligently to manipulation.

Shakespeare marshals up his characters as familiarly as if they were his dogs, his servants, and his children; and he knows every whim, every secret passion, or every manly principle that possesses them. And now that we have written it—is it an old expression of our own, or is it a raveling from another's work that we carry off?—Shakespeare's writings were not all genius; in the best of them there was labor—severe, critical, exacting.

Byron—born full fifty years too early, we shall always maintain—played with the finer passions, now as if they were simple toys; then as if they were brilliants, flashing them in the light for beautiful effects; and again, with a most thrilling appreciation of their holiness. Here is his picture of the breaking heart, familiar to the many—the poetry we mean, not the breaking heart—but there will be new readers ages hence for Byron's true poetry:

"They mourn, but smile at length; and, smiling, mourn:
The tree will wither long before it fall;
The hull drives on, though mast and sail be torn,
The roof-tree sinks, but moulders on the hall
In massy hoariness; the ruined wall
Stands when its wind-worn battlements are gone;
The bars survive the captive they inthral;
The day drags through though storms keep out the sun;
And thus the heart will break; yet brokenly live on."

We venture to say that no poet ever held commune with Nature with such rapt utterance—so reverent, and yet familiar—as Lord Byron. We have read again and again the description of a thunder storm in "Childe Harold's Pilgrimage," third canto, beginning with the ninety-second stanza. It always excites the same emotions, as if it were being read for the first time:

"The sky is changed!—and such a change! Oh night,
And storm, and darkness, ye are wondrous strong,
Yet lovely in your strength, as is the light
Of a dark eye in woman! Far along
From peak to peak the rattling crags among
Leaps the live thunder! Not from one lone cloud,
But every mountain now hath found a tongue,
And Jura answers, through her misty shroud,
Back to the joyous Alps, who call to her aloud!"

The four stanzas following increase in interest; but having no space for them, we content ourself with quoting the ninety-seventh. After the poet has been witnessing the commotion of the various elements, he then breaks out:

"Could I embody and unbosom now
That which is most within me—could I wreak
My thoughts upon expression, and thus throw
Soul, heart, mind, passions, feelings, strong or weak,
All that I would have sought, and all I seek,
Bear, know, feel, and yet breathe—into a word,
And that one word were Lightning, I would speak;
But as it is, I live and die unheard,
With a most voiceless thought, sheathing it as a sword."

These words are not fluid as *lightning*, but they dart, flash, strike, pierce, burn—are roundly charged with electricity. It is a tremendous volcanic explosion, followed by the softly-whispering voices of nature.

Words are the common soldiers of expression, and need a good commander. They are grotesque figures dancing to a dare-devil tune. They are miscellaneous blocks waiting for the architect to choose and fit them to each other. They are taste—nectarine, acidulous, bitter. They are perfumes—aromatic, fragrant, or disgusting. They are tones—melodious, passionate, sad, exultant, grand, awful. They are colors capable of high effects—from the sublime and grandiose to the cool, the clear, and soothing; but not every one who lays them on the canvas can produce a picture. Kaleidoscopic by reflection, they are infinite in variety of forces, shapes, and beauties. Pure, simple, and unostentatious of their single selves, they mass together in all the regal pomp of power, in unique groups of personal displays, and yet what senseless jargon do they often make! How they can glare, and smile, and smite, and frown, and chant, and howl, and damn, and bless! The fiends and the angels abide in them. They are living ghosts. They stand before us in

their palpable presences, and yet we can not see which way they have come, nor whither they are gone. We can not measure their powers of good, nor their propensities to evil—their friendship, nor their malignity. Language, like society, admits freely of caste. Glitter and ornament, taste, and startling mode prevail, as in the world of fashion. How carelessly words are plucked and flung about, as blades of grass or grains of sand. It is this prodigality—this total lack of knowing, or caring to know, the value of words, and thoughts, and things, and conditions, and truths—that keeps us poor in literature, with all our stores of books and tons of newspapers and other periodicals. "Words—words—words!" The idea is oftener with "the needle in the haymow," or in the monkey-cup on the desert. The kine or the monkeys may find and utilize it; but superficial man can get on in the world without it, if he only *seems* to have it.

In the ruder walks of nature man admires —then craves. But he beholds the noblest genius, and self-denyingly says, "It is not for me!" Is it his modesty blushing for its innocence? Is it awe, humbled for self-contrasted littleness? Is it ignorance mistaking a noble, loving woman, or a grand, intellectual man, for a piece of dumb, cold statuary? No; it is indolence, contented to be discontent, that coolly declares, "It is not for me."

But if we wonder at Shakespeare, Dickens, Milton, Byron—at their acute perceptions, their swift and strong analogies, their individual projective energies—how much more may we open our astonished eyes at the slow atomic research, the close, confining application, the unswerving determination that inhere in the composition of great scientific explorers, who bury themselves in, and imbue themselves with, dry, abstract studies that would seem to freeze the warm humanities out of the student, by their cold, breathless inanimation—their uncommunicativeness. But look at Humboldt—what a humanitarian! After all our fear of their fossilization, we find that many of these philosophers are either criticising or creating "other worlds than ours;" and in the meantime they eat beef and increase posterity, thus getting as full a grasp of the common accomplishments, and, beside these, what we consider a stupendous surplus of intelligence. While it is astounding to the average mind how they pack away so much knowledge, with such systematic arrangement, that it is ever ready for use, they—the learned, the laboring, and unconquerably ambitious—are far more "at sea" to know how we *manage* to live such empty, vague, and unconscious lives—how our minds can be so utterly blank, unimpressionable, and stagnated. They can fathom any depths easier than our shallowness. It should strike home to us forcibly, convictingly, when we observe what the human intellect has evolved, the wide scope of knowledge over which it has swept, and into which it has merged itself, and the treasures which it has garnered in the few individuals of whom we boast as the "great men" of our times. There can be nothing so incomprehensible as our apathetic disregard of the magnitude of life, our indifference to concrete truth, our dull estimate of the fitness of the tools with which we work when we do work, and our irresponsible tutelage over the mind which makes the man. Hear what Tennyson says:

"Come, my friends,
'Tis not too late to seek a newer world.
Push off, and sitting well in order, smite
The sounding furrows; for my purpose holds
To sail beyond the sunset, and the baths
Of all the western stars, until I die.
It may be that the gulfs will wash us down:
It may be we shall touch the Happy Isles,
And see the great Achilles, whom we knew.
Tho' much is taken, much abides; and tho'
We are not now that strength which in old days
Moved earth and heaven; that which we are we are;
One equal temper of heroic hearts,
Made weak by time and fate, but strong in will
To strive, to seek, to find, and not to yield."

ROSINE KNIGHT.

THADDEUS STEVENS AS A STATESMAN.—One who knew this eminent man well, says that as the leader of the Republicans in the House of Representatives, he was unrivalled. He tolerated no disaffection in his ranks. He permitted no divided allegiance. And the awe and dread which members manifested of him, of course contributed to

his success as a party leader, though it was amusing to those of us who knew him better. To the House he appeared like the fourth form of the prophet's vision—dark, mysterious, iron-teethed, terrible—while by nature he was one of the gentlest and most genial of men, with an overflowing sympathy for all in distress, and whose appeals he could never resist. There was, perhaps, no public man in Washington more easily approached. Men, women, and children went to him freely to consult him, and were always sure of a sympathetic hearing. But in the House he seemed like a man of iron.

YALE COLLEGE AND ITS PRESIDENT.

YALE College ranks as the second educational institution in age and importance in this country. Its age may be stated as 177 years, counting from the time when ten of the foremost ministers in the Colony of Connecticut assembled at New Haven and formed themselves into an association for the purpose of founding a school. These gentlemen subsequently repaired to Brandford, each taking a number of books, and depositing them there with the view to form a library. It was in 1701 that this Society was incorporated by colonial statute. Several years passed before the school had fairly set out upon a useful course. Abraham Pierson was the first Rector. He died in 1707. Only a few years ago, a bronze statue to his memory was erected in the College grounds.

The Society School was located first at Saybrook, but during its first seventeen years it led a wandering life. Rector Pierson lived at Killingworth, and taught his class there. The Rector who succeeded him resided at Milford, where he instructed the senior classes, while the lower classes were instructed at Saybrook. In 1716 many of the students left Saybrook and went to Weathersfield, to be taught by Mr. Elisha Williams, whose tutorage they preferred, and who nine years afterward became Rector. Much controversy with regard to the location of the College was maintained between New Haven, Hartford, Saybrook, Weathersfield, and Middletown, and this affected its financial condition and progress.

In 1717 most of the trustees having declared in favor of New Haven, the young College was removed thither, but not without much opposition on the part of the citizens of Saybrook. About this time there were received from London a large box of books, a portrait of King George, and some valuable English goods. These were the gift of Governor Elihu Yale, of London, and in acknowledgment of the gift, the trustees named the new building, which had been erected for the use of the school, "Yale College." This Elihu Yale was born in New Haven in 1648, but was educated in England, and spent the greater part of his life there and in the East Indies, occupying in the latter important official positions. His portrait is on the cover of the *Yale Literary Magazine*.

The settlement in New Haven proved the beginning of a new and advancing career. One by one departments of study were added and new buildings erected, and a substantial basis of reputation created. During the Revolution, however, the College was nearly broken up. No public Commencement was held from 1777 to 1781; but with the close of the war, matters resumed the old shape, and with the accession of President Timothy Dwight in 1795, the College entered upon a career of prosperity which has scarcely known a drawback since. From the school attended by less than 150 pupils, and tutored by a half-dozen teachers, it has become a University with six separate Faculties, numbering in the neighborhood of 90 instructors, nearly 1,100 students, and occupying thirty buildings. President Dwight evinced remarkable administrative energy; and to his skillful management the remarkable growth of the institution was mainly due.

Succeeding his occupancy of the President's chair was Jeremiah Day, who for twenty-nine years exercised a wise sway;

next came Theodore Dwight Woolsey, who resigned, on account of age, in 1871, and was succeeded by Dr. Noah Porter, whose portrait is given.

THE PRESIDENT.

Noah Porter is the second son of the Rev. Noah Porter, an eminent divine, and a life-long pastor of the Congregational church. He was born in December, 1811, at Farmington, Ct., entered Yale College as a student at the age of sixteen, and was graduated in due course. His father was also a graduate of the same institution. After leaving college, young Porter gave his attention to teaching, accepting a situation in the Hopkins Grammar School of New Haven, where he taught two years. From that the transition seemed easy; and for the succeeding two years he was employed as a tutor in his *alma mater*. Having made choice, however, of the Christian ministry as his vocation, he was settled as pastor over the Congregational church in New Milford in April, 1836, and remained in that connection until 1843, when he accepted the call to Springfield, Mass. Four years later, having been elected to the chair of Moral Philosophy and Metaphysics in Yale, he removed to New Haven, and entered upon the duties of his professorship. This position afforded him opportunity to win reputation as a scholar and author; and upon the resignation of Dr. Woolsey, he was elected to fill the vacancy by the unanimous vote of the College Corporation. During the twenty-five years of his professorship, he contributed to periodicals of the day, and published several volumes of recognized value. He assisted in the preparation of a new and revised edition of "Webster's Dictionary," a work which involved a vast amount of careful research. He wrote "Puritan and Jesuit Education," "The Human Intellect," "American Colleges and the American Public," "Books and Reading." His "Human Intellect" is a ponderous tome, representing the study and labors of many years. It is a compendium of ancient and modern mental philosophy, furnishing views of the opinions entertained by the long array of metaphysicians from the time of Anaxagoras to our own day. It is valuable as a work of reference to all who are interested in metaphysical research. The attitude taken in it by Dr.



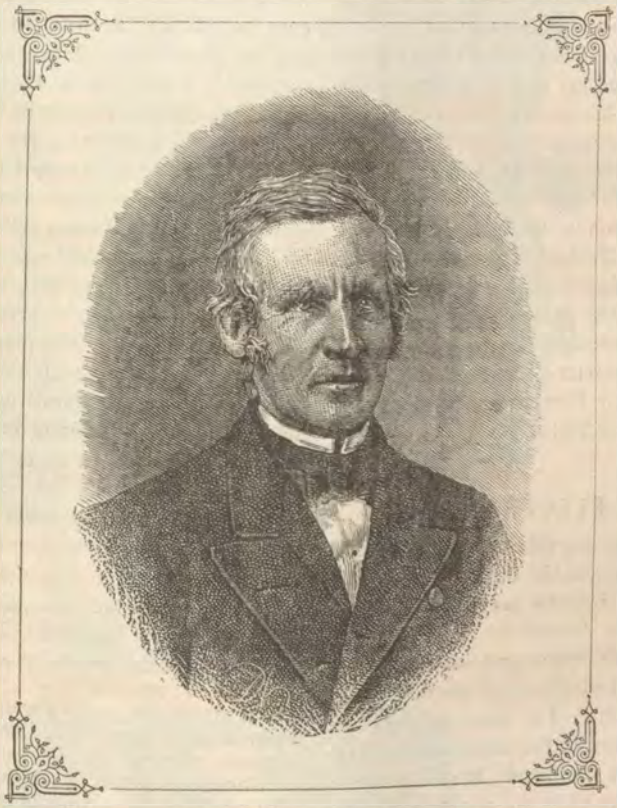
THE OLD BUILDINGS OF YALE COLLEGE.

Porter toward Phrenology has received attention from advocates of the science, and discussions of it have occurred in the PHRENOLOGICAL JOURNAL.

The portrait herewith given was engraved from a photograph taken about two years ago, and represents Dr. Porter as a man of much nervous energy and physical endurance. The whole physiognomy wears an expression of intensity, of the habit of close and thorough thinking, but more in the direction of the theoretical than of the practical. He has much talent as an organizer; is ready in suggestion, and his plans always have a basis of utility and economy. He is not the man to entertain unnecessary and extravagant projects which would require time, money, and labor in their prosecution. He is strong in will, steadfast in opinion, and inclined to be brief in oral statement. Although argumentative, he is not wordy, but seeks to convey his thoughts in a direct manner, using the exact terms which fit his meaning. As a reasoner, his organization and studious habits dispose him to a preference for deductive methods, in which he should be distinguished for nice discrimination as well as deep penetration.

He is a strong character, mingling elements of robust energy with a fine esthetic taste and much sympathetic feeling.

Some of the buildings within the Yale College domain worthily represent the interest of wealthy Americans in the cause of higher education—such, for instance, as the Peabody Museum, which was endowed by Mr. George Peabody; the Yale School of Fine Arts, which was the creation mainly of a single donor, Mr. Augustus R. Street, of New Haven; the Sheffield Scientific School, with its two attractive halls, which owes its existence to the liberality of Mr. Joseph E. Sheffield, of the same city. Then there are the new Library Buildings, the School of Fine Arts, Farnam Hall, and Durfee Hall. This last was completed in 1871.



and perhaps its architecture possesses the most agreeable proportions of any to the eye of a visitor. It is constructed of rough-dressed New Jersey sand-stone, is four stories high, and arranged for dormitory purposes. The value of the land and the various sums which have been expended for building purposes by the Corporation would make up, it is said, an aggregate of scarcely less than five millions of dollars. The productive property of the University, according to the last report, was put at one million five hundred thousand

Yale College ranks well in respect to her record of students who have become distinguished in literature, science, and politics. In letters, she can point with pride to Webster, Worcester, Woolsey, and Hadley; in science, to Silliman, Morse, Whitney, and Dana; in divinity, to Edwards, Hopkins, Dwight, and Taylor. The celebrated class of 1837 has furnished more men of prominence than any single class graduated by any other institution in America; among them are Secretary Evarts, Chief-Justice Wait, Minister Pierrepont, Professor Silliman, Governor Tilden, etc.

THE ELECTRIC PEN.

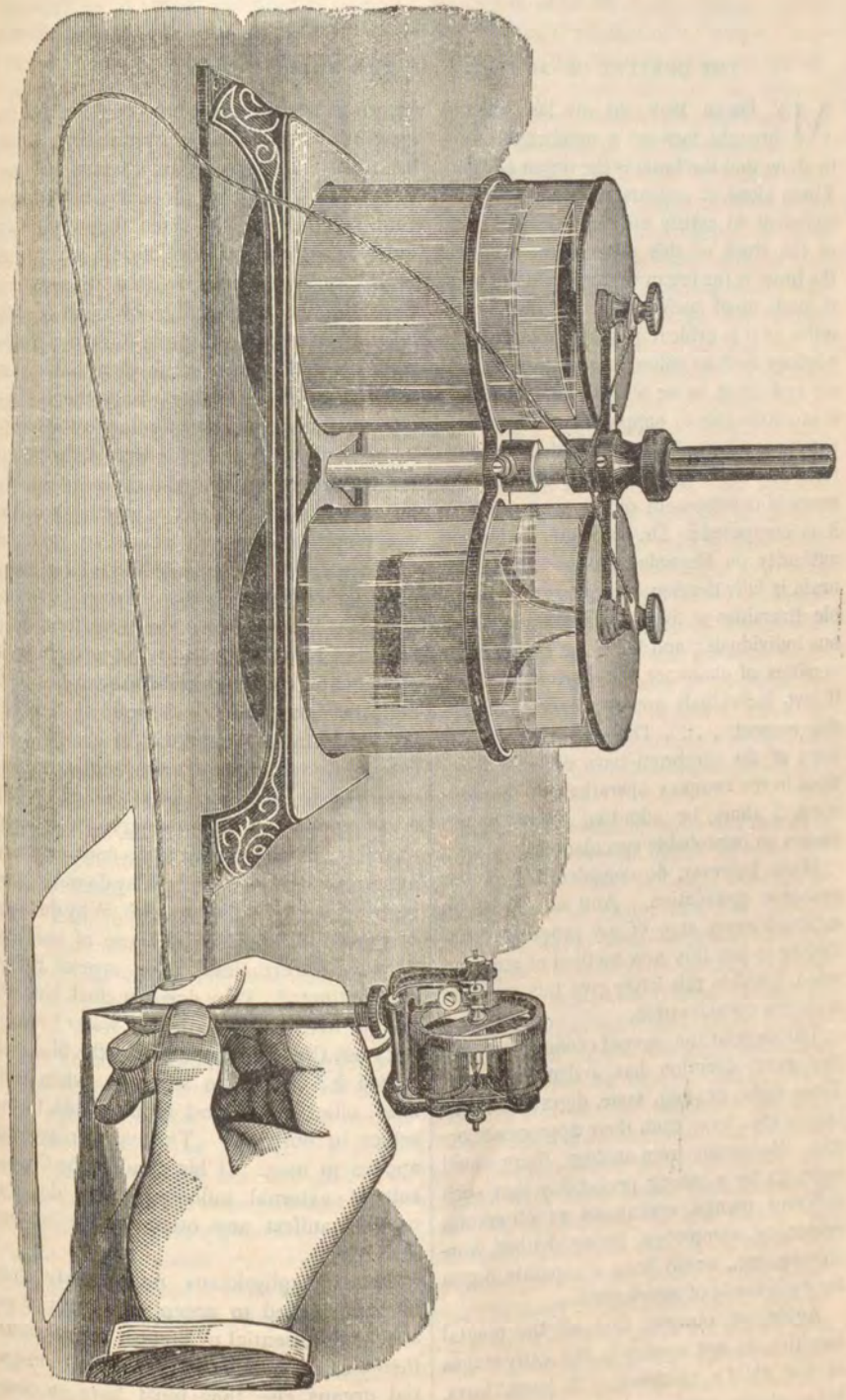
THE advancing tide of civilization constantly swells the throng of busy men whose chief business seems to be to respond to the demand for more facilities, more dispatch, more agencies, to promote the industrial energy of the working, thinking community. The printing press, the electric telegraph, the steam engine have ceased to be wonderful; fresh discoveries and inventions claim our attention day after day, and some possess so remarkable a degree of mechanical utility, usurping even the place of man's intelligent hand, and eclipsing it in the perfection of result, that we are led often to ask, What next?

The engraving presents a view of a recent invention, called the Electric Pen, which adapts the singular energy of electricity to common uses. It is the production of Mr. Edison, a well-known electrician, a sketch of whose career will be given in the January PHRENOLOGICAL. As shown in the engraving on page 429, the Electric Pen consists of a small electro-magnetic engine mounted upon frame-work secured to the top of a tube, pointed at the end. Within the tube is a needle, secured to the end of a shaft, which is given a very rapid vertical revolution by cams upon the rotating engine shaft. The pen when in use is held in the vertical position, upon a sheet of writing paper placed upon a thick blotter or some other soft, slightly yielding substance, and a letter may be written with the same ease and facility as with an ordinary pen, but the characters will be composed of innumerable punctures in the paper by the rapid projection of the needle from the tube. The result is a perfect paper stencil. The motive power used to propel the engine of the pen is derived from a voltaic battery, consisting of two Bunsen cells. A particular form of this battery was especially designed for the electric pen, with a view to economy and its use by persons inexperienced in electricity. The press consists of a metal base upon which the sheet to be printed is laid. A frame operating upon hinges and having springs for securing the stencils in position, is brought down upon the bed of the press. A roller saturated with printer's ink somewhat thinned with oil, is passed over the stencil plate, filling the holes of the stencil, percolating through upon the paper, and thus giving a perfect fac-simile of the original. This process is repeated until the requisite number of impressions is obtained.

The apparatus meets a want felt by many business and professional men who have occasion to send out letters in duplicate, circulars, and copies of writing of any sort.

In nearly all departments of business, the sciences, arts, education, etc., it can be made to render valuable assistance, saving both time and money. The Post-Office department has decided that everything written with the electric pen shall go as third class mail matter at one cent per ounce or fraction thereof. The cost of running the apparatus, including ink, etc., will not exceed ten cents per week. Anything that can be done with an ordinary pen may be readily accomplished with this, and hence it is equally well adapted to all trades and professions.

We are indebted to Mr. George H. Bliss, of Chicago, for the use of the engraving.



THE ELECTRIC PEN.

LETTERS TO A SON IN COLLEGE.

No. IX.

THE COMPLEX ORGANIZATION OF THE BRAIN DEMONSTRATED.

MY DEAR BOY: In my last letter I brought forward a number of proofs to show that the brain is the organ of mind. These alone, it appears to me, ought to be sufficient to satisfy any unprejudiced mind of the truth of this proposition. If, then, the brain is the organ of mind, and the mind is made up of such various and diverse faculties as it is evident it must be in order to produce such an unlimited variety of character and talent as we observe among men, is it unreasonable to suppose that the brain is a compound organ, and that these characteristics have their origin in different degrees of development of the parts of which it is composed? Dr. Carpenter, a leading authority on Physiology, says: "When the brain is fully developed, it offers innumerable diversities of form and size among various individuals; and there are as many diversities of character. It may be doubted if two individuals are ever exactly alike in this respect. . . . . That the different portions of the cerebrum have different functions in the complex operations of thought, must, I think, be admitted to be by no means an improbable speculation."

Many, however, do consider this an improbable speculation. And as I wish to establish every step of my progress in unfolding to you this new method of studying mind, I will in this letter give this question a careful consideration.

Throughout the animal economy we find that every function has a distinct organ. Thus sight, hearing, taste, digestion, circulation, etc., have each their appropriate organ. Reasoning from analogy, there would seem to be a strong probability that such different mental operations as observing, reasoning, comparing, loving, hating, worshiping, etc., would have a separate organ for each mode of manifestation.

Again, we observe that all the mental faculties do not appear in the early stages of the child's existence. It loves, fears, hates, shows anger and determination long before it reasons, or has any feelings of veneration or moral accountability. If the brain were a single organ, it would be capable of manifesting all these mental faculties simultaneously. But since they appear at different stages of the child's growth, it would seem to indicate that the brain is composed of a plurality of organs, each adapted to a different mode of mental manifestation. Perhaps some may think that the successive appearing of the mental faculties in childhood gives color to the favorite metaphysical doctrine that all men are created equal, and that the different characteristics which we observe among them are the result of training, education, and the circumstances in which they have been placed. Helvetius says: "Foxes hunt because they have learned hunting from their parents; birds sing and build nests in consequence of instruction; and man becomes man by education." Spurzheim replies: "Were animals susceptible of change from every impression, and not endowed with determinate natures, how comes it that every species always preserves the same character? Why do not fowls coo when they are raised with pigeons? Why do not female nightingales sing like males? Why do birds of one kind, hatched by those of another, display, nevertheless, their special habits and instincts? Why does the duck hatched by the hen run toward the water? Why does not the cuckoo sing like the bird that reared it? Why do squirrels, when pursued, climb trees, and rabbits hide themselves in burrows? The same reasoning applies to man. If his faculties be the result of external influences, why does he never manifest any other nature but his own?"

The metaphysicians must surely have been compelled to accept this doctrine as absolutely essential to support their favorite theory of the mind's independence of material organs, else they must have so completely shut up the organs of sense, shut out

the material world, and shut in the mind upon itself as to render themselves blind to facts which are patent to the most careless observer.

Again, Dugald Stewart says: "What we call the power of imagination is not the gift of nature, but the result of acquired habits, aided by favorable circumstances." And others have asserted that genius is the result merely of an accidental exciting cause. As illustrations of this, it is said that Newton was made a philosopher by the fall of an apple, and Byron became a great poet because he was lashed by the reviewers and condemned as a poetaster. "But," says Mr. George Combe, "like causes produce like effects, and how happens it that so many millions before Newton had seen apples fall without ever thinking of anything but picking them up and eating them? And if lashing be sufficient to produce a great poet, why are not great poets more numerous? Indeed, if critical abuse had been sufficient, I should by this time have become a great poet myself."

The early lives of thousands of celebrated men entirely refute this doctrine of equality in mental gifts, and that excellence in any pursuit or branch of knowledge is the result of acquired habits aided by favorable circumstances. Allan Cunningham, in his "British Painters," says, in reference to Richard Wilson: "His love of art appeared early. How this came upon him in a place where there were no paintings to awaken his emotions, we are not informed; but a slight cause will arouse a naturally strong spirit."

Mozart composed music at the age of six. Michael Angelo exhibited remarkable talent at the age of thirteen. George Moreland made drawings at the age of five years, which obtained a ready sale at high prices. And Pascal and Bidder were profound mathematicians when mere children.

These special talents must certainly be innate when they appear at so early an age, and are often manifested so powerfully under the most unfavorable circumstances. And if they reside in the brain, as they certainly must, since the brain is the organ of mind, how is it possible for the brain to be a single organ? Would it not in that case be able to manifest equally talents for music, painting, mathematics, poetry, etc.? But how easily are these phenomena explained on the supposition that the brain is composed of a plurality of organs, each of which is adapted to the manifestation of a distinct faculty, and which, being subject to the laws of hereditary descent, like the other bodily organs, are often transmitted from parents to children in such strength and vigor as to spring forth spontaneously into activity, entirely independent of training, education, and favorable circumstances.

Now in regard to the hereditary transmission of mental qualities, I would like to know how it is explained by those metaphysicians who teach that the mind never operates through the agency of any material organ whatsoever. If the mind is perfectly independent of bodily organs, then these talents must be located in the soul itself, and we are compelled to think of an immaterial principle as divided up into various parts, talents, feelings, and passions, which exist in different degrees of strength, and which, as parts of the immortal mind, are handed down from parents to children, like the gross and material substance which they inhabit.

Dr. James Carson presents this matter in a clear and powerful light. "Every person," he says, "who is a close observer of nature, must be aware that the children often very closely resemble either father or mother, or are a mixture of both, not only in the features of their face, and in the organs generally of the body, but also in what is called their mental constitution, such as may be seen in their temper, talents, tastes, passions, and peculiar modes of thought. Now if idiocy, proclivity to crime, a tendency to insanity, temper, tastes, passions, and talents are handed down from parents to children on the side of *both father and mother*, and if these things are all in the mind in place of the body, it must follow that the mind itself is hereditary. Just see the position my opponents are placed in by such a state of matters! They are compelled to believe that the mind is transmitted by the parents as well as the body

Nay, more, inasmuch as the child often partakes of what is called the mental peculiarities of both father and mother, the mind must be composed of distinct and different parts, some of these derived from the father and some of them from the mother. Surely this is materialism with a vengeance. For my part I can not believe that the mind or soul is derived all from the father, or all from the mother, or a part of it from each. I am satisfied that the body alone is transmitted, and that the soul, in every instance, is a new creation from the hand of the Omnipotent."

In my last letter I remarked that when the brain is below a certain size, idiotism is the invariable result. But some idiots, completely deficient in every other particular, are remarkable for manifesting some special talent in the most powerful degree. Fodéré, in speaking of the Cretins, says: "It is remarked, that by an inexplicable singularity, some of these individuals, endowed with so weak minds, are born with a particular talent for copying paintings, for rhyming, or for music. I have known several who taught themselves to play passably on the organ and harpsichord; others who understood, without ever having had a master, the repairing of watches and the construction of some pieces of mechanism." He adds that these powers could not be attributed to intellect, "for these individuals not only could not read the books which treated of the principles of mechanics, but they were confounded if spoken to on the subject, and never improved themselves."

Mr. Combe speaks of an idiot who had such a faculty for acquiring languages, that if shown a passage in the Bible, she would point out and read the corresponding passage in seven or eight different languages, though the words were wholly without meaning to her mind. He also gives an instance from Pinel of an idiot who manifested the most wonderful propensity to imitate whatever she heard or saw, but who was utterly destitute of intellectual capacity, and who never attached an idea to any sound she uttered. And another from Dr. Rush, of a man who was remarkable for his religious feelings, though exceedingly deficient in intellect and other moral qualities. Mr. Schlatter informs us that "the celebrated painter of cats, named Mind, of Berne, was an idiot in the fullest sense of the word, and was altogether childish in his manners. Yet he had such a great tendency and talent for painting from his youth upward that he represented in various pictures, large and small, his numerous favorites, of both sexes, of every age, in every possible attitude and action, with the most striking effect, completely true to nature in their forms, proportions, and colors."

Now in these cases of partial idiocy, if the brain be a single organ, how are we to account for the fact that it is capable of manifesting particular faculties of mind most accurately and powerfully, while in regard to all other faculties it is perfectly idiotic. Such a supposition is about as reasonable as that an eye which is capable of seeing a horse accurately, should be perfectly unable to distinguish a cow, a tree, a house, or any other object in nature. Whatever power the eye possessed, it would be equally capable of manifesting on all these objects. If it were blind to one, it would be blind to all, and if it saw one clearly, it would be able to see all the others with equal distinctness. So if the brain, as a single organ, is all concerned in every mental manifestation, it surely ought to be able to manifest every mental faculty with equal power. And it would be utterly impossible for any one to manifest a talent for music, painting, drawing, mechanics, or mathematics, and be wholly deficient in every other mental faculty. Fodéré calls the cases of partial idiocy which he observed among the Cretins, inexplicable singularities. On the supposition that the brain is a single organ, or that the mind never operates through the agency of any material organ whatever, they certainly are altogether inexplicable. But how simple and reasonable becomes their explanation on the supposition that the brain is composed of a plurality of organs, each appropriated to the manifestation of a single mental faculty. When each acts perfectly independent of the rest, it is possible that some may be completely developed, and thus capable of manifesting their peculiar

faculty powerfully, while others are in such a rudimentary condition as to be unable to manifest mind in any perceptible degree.

Arguments for the plurality of organs in the brain, similar to those adduced from partial idiocy, may be found in monomania or partial insanity, where one or several mental faculties are deranged, while all the others are normal in their manifestations. If the brain as a whole is essential to the manifestation of every mental faculty, the question again recurs, How is it possible that it can manifest correctly every faculty but one, two, or three, and yet be insane upon those particular faculties? That such cases are common, no one in any degree acquainted with the different phases of insanity will dispute. "Hospitals for the insane," says Pinel, "are never without some examples of mania marked by acts of extravagance or even of fury, with a kind of judgment preserved in all its integrity, if we judge of it by the conversation. The lunatic gives the most just and precise answers to the questions of the curious; no incoherence of ideas is observable; he reads and writes letters as though his understanding were perfectly sound, and yet, by a singular contrast, he tears in pieces his clothes and bed-covers, and always finds some plausible reason to justify his wandering and his fury. This sort of mania is so far from rare that the vulgar name of *folie raisonante* has been given to it."

Lord Erskine mentions a case in which a monomaniac brought suit against his brother for confining him in a lunatic asylum. He answered the questions put to him with such perfect accuracy, that all who heard him were fully convinced of his sanity, and believed that he was the victim of cruelty and oppression. At last he was asked if he was Jesus Christ. He immediately replied: "I am the Christ." This, of course, was sufficient to prove his insanity. A similar case is related by Gall.

Dr. James Carson quotes the case of a man who had an irresistible propensity to kill his wife at the very time that he was warning her to flee out of his reach. And of another where a man seemed discreet and could converse on any subject most rationally till the moon was spoken of. On hearing the moon mentioned, he fell into a state of great excitement, as he believed he was secretary to the moon.

These cases of partial insanity, like those of partial idiocy, are most clearly explained on the supposition that the brain is composed of a plurality of organs, while upon any other hypothesis they are altogether inexplicable. Taking again an illustration from the external senses, we find that sight, hearing, taste, smell, feeling, and motion have each separate organs, which are connected with different parts of the brain by means of distinct nerves. If any one of these nerves be severed in any portion of its course, the peculiar faculty over which it presides will be completely destroyed, while every other faculty may remain unimpaired. Sever all of these nerves, and communication with the external world will be entirely suspended. Sever a portion of them, and, as in the case of Laura Bridgeman, the deaf, dumb, and blind girl, impressions from the external world may be received through those organs which remain unimpaired. Some of these organs may also be diseased, then, though their functions may not entirely be destroyed, yet will they be affected in a degree proportioned to the extent of the disorder in the organs. If an eye be jaundiced, everything which it sees will be tinged with yellow. If it be weak from any cause, we can not hope to have perfect vision till this organ shall have been restored to health and strength.

Cases are on record of individuals having lost the power of feeling while retaining that of motion. These functions are presided over by different nerves, which, for a portion of their course, run in the same sheath, and can not be separated or distinguished, yet their powers are totally different. A woman having lost the sense of feeling, while retaining that of motion, was able to carry her child in safety so long as she looked to what she was doing, but the moment her attention was withdrawn from her child, it fell to the floor, as there was no sense of feeling to remind her that she had anything in her arms. A waiter similarly affected could carry her tray in safety so long as she

looked to her hand, but the moment her eye was withdrawn, the tray fell to the floor. In these cases sight compensated, though very imperfectly, for the want of the sense of feeling.

These external senses, as I have before observed, are each presided over by distinct nerves, which have their origin in different parts of the brain. That the brain is essential to the manifestation of these different functions, is proved by the fact that if the nerves which connect it with the external organ are severed in any portion of their course, the function of the organ is completely destroyed. If, then, different parts of the brain preside over such diverse functions as sight, hearing, taste, smell, and feeling, in so far as the senses are concerned, it must be a compound organ, and is it any more unreasonable to suppose that it may have individual organs for the manifestation of such different talents and dispositions as we observe among men?

Let us now, in contrast with this simple and natural method of explaining the complex phenomena of mind, consider the hypotheses upon which the metaphysical systems of mental philosophy are founded, and trace them to their legitimate issues. Nothing is more clearly taught by the metaphysicians than that the mind is made up of many different powers—as reflection, imagination, will, judgment, feelings, passions, etc.

On the supposition that the mind never operates through the agency of any material organ whatever, we are compelled to locate these various faculties in the mind, which we have been taught to regard as an immaterial entity. Think, then, of an immaterial spirit being divided up into parts. Think of some of these parts becoming deranged while all the others remain in a healthy condition. Think of all of these becoming obliterated but one, whose manifestation is unusually healthy and vigorous. Think of this spirit becoming exhausted and requiring regular periods of sleep to restore its wasted energies. Think of it becoming drunk, or reduced to a state of stupor by different material substances. Surely these states and conditions, to which the metaphysical doctrine makes the spirit or soul of man subject, wholly contravenes our notion of spirit, and does away entirely with the soul's immateriality and immortality. For it is utterly impossible that that which is immaterial and immortal may be divided into parts, become diseased, exhausted, intoxicated, or put into a state of sleep.

The materialist, Priestly, very naturally drew a powerful argument in favor of his doctrine from this hypothesis of the metaphysicians. "We see," said he, "that every faculty of the mind, without exception, is liable to be impaired, and even to become wholly extinct before death. Since, therefore, all the faculties of the mind, separately taken, appear to be mortal, the substance or principle in which they exist must be pronounced to be mortal too."

Under the hypothesis that the mind never operates through the agency of any material organ whatever, Priestly is unanswerable. But on the supposition that the brain, as the organ of mind, is divided into many individual organs, each adapted to the manifestation of a single faculty, this argument for materialism falls to the ground; for then we may refer the deficiency, the disease, the exhaustion, and the intoxication to the material organ, and consider the mind as an immaterial and immortal entity, giving forth a corresponding manifestation. Complexity, then, certainly is somewhere, and we are compelled to locate it either in the mind or the body. Which is the more rational view, I think the foregoing considerations will enable you rightly to determine.

But, say the metaphysicians, when we speak of the mind being made up of many faculties, we do not wish to be understood that it is divided up into as many parts as there are different mental faculties. We mean by a faculty only the mind itself existing in a certain state. But this doctrine of the mental states, while it is intended to do away with the absurdity of supposing an immaterial entity divided up into parts, projects us into equally as great an absurdity, and leaves the complexity which mind everywhere presents wholly unexplained; for the questions still recur: Why is the same mind invariably strong in one particular state and

invariably weak in another? Why is the monomaniac insane in one state, and sane in every other? Why does the partial idiot in one particular state manifest extraordinary power, while in every other state he is invariably an imbecile? Surely it is most absurd to suppose that the mind can be jumping about from a state of weakness into a state of strength; from a state of sanity into a state of insanity; from a state of weakness into a state of extraordinary power. And when we consider the various feelings of joy, fear, hope, love, hatred, etc., which sometimes take possession of our minds, and for a time keep them in a turmoil of feeling and passion, we marvel that even a spirit should possess the agility to keep time with our quickly changing thoughts and emotions. For as these thoughts and feelings depend on the whole mind existing in certain states, no two distinct feelings, such as love and joy, anger and hatred, can exist in the mind at the same time. It must jump out of a state of love before it can jump into a state of hope or joy, and it must clear itself from a state of anger before it can experience the feeling of fear or hatred.

Who, upon reflection, will not say that it is contrary to his experience that but a single feeling or emotion can exist in his mind at once. Is it not true that while held under the dominion of some master emotion, such as anger or terror, our minds may at the same time be agitated by many other conflicting thoughts and emotions? The doctrine of the simple mind and a complex brain again meets the requirements of this case completely, for upon this theory several mental organs may be active at the same moment, and their several peculiar influences will be made manifest through the same simple and indivisible mind.

This idea of the mental states appears to me to have been adopted by the metaphysicians not because of its conformity with nature, but because it is absolutely essential to preserve the appearance of consistency among their doctrines. But that it is not safe to build upon any other foundation than the truth, is abundantly shown in the inconsistencies which abound in the writings of the metaphysicians. Dugald Stewart, who held that all men are created equal, and that the difference which we observe among them are the results of training, education, and the circumstances in which they are placed, says: "It is generally supposed that of all our faculties memory is that which nature has bestowed in the most unequal degree on different individuals." Holding also to the doctrine of the mental states which we have just been considering, he inquires: "What is the state of the mind in sleep? Or, in other words, what faculties then continue to operate, and what faculties are then suspended?"

Comment upon these quotations is unnecessary. I will simply say that these learned men are accustomed in their investigations to dive so deep as often to fail to see truth when it lies upon the surface; and that they sometimes forget themselves and talk in a language which is intelligible to the common run of men, and which coincides with common experience.

Dugald Stewart's question in regard to the faculties which operate and are suspended during sleep, is inexplicable upon any metaphysical hypothesis. But on the supposition that the mind operates through a plurality of organs in the brain, the explanation of the phenomena of dreaming becomes as clear as the light of day. For then these organs, acting independently of one another, some may be under the influence of sleep while others are awake and capable of forming pictures in the mind, or following out a train of thought, either rational or absurd, which we are capable of recalling when we wake.

I hope I have brought forward sufficient facts and arguments to establish the proposition which I set out to prove at the beginning of this letter, that the brain is made up of as many different organs as there are distinct mental faculties. If I have done so, the next question to be settled is, What are these organs and faculties?

Affectionately yours,

PATER CONFIDENS.

EVERLASTING.

Dear little, pure little, white Everlasting!
Fragrant, gold-hearted, rose-modeled ye gleam,
Starlike 'mid grasses and mosses, contrasting
Brightly with wild purple asters, and seem
Lovelier far than pink eglantines growing
Yonder, or gay-spotted lilies that burn
Flame-like anear, or the wild roses glowing,
Blushing and paling amid the sweet fern.

Fringing the banks of the brooklet, and raising
Beautiful white-petaled clusters beside
Cardinal blossoms with scarlet-fire blazing,
Empress of wild blooms in color and pride.
High on the lichen-flecked cliffs near the ocean,
Where the red columbine fearlessly dwells,
Blending with golden-rod, ever in motion,
Fanned by salt breezes, ye thrive, *Immortelles*.

Modestly lifting your bright eyes to heaven,
Heedless of sumachs which crimson and bend
Passionate glances upon you, or even
Burning love-kisses of sunbeams, which tend,
Innocent darlings, your beauty to heighten—
Gems of the valley, of wild sylvan dells—
Mossy-green, vine-braided rocks, too, ye brighten;
Waysides ye gladden, wee, white *Immortelles*.

Flowers aromatic, buds fair as the morning,
Lovely and fragrant in death as in life,
Fitted to deck the young bride and adorning
Couches whose sleepers have done with earth-strife.
When you are gathered and frost has invaded
Moorland and woodland, our gardens as well,
Blighted their verdure—chrysanthemums faded:
Changeless and sweet are ye, *dead Immortelles*.

Ah, precious lesson! Some lives, thus undying
Live in our hearts, aye, in memory dwell
Deeds of the lowly ones, holy ones lying
Under the beautiful bright *Immortelles*.
Dear little, sweet little white Everlasting!
Fadeless, gold-hearted, beloved *Immortelles*;
Perfect in form, and in beauty outlasting
Blossoms of forest, mead, mountain, and dell.

EMMA MAY BUCKINGHAM.

THE PACIFIC NORTHWEST.

NOWHERE in all America can be found another locality equal to that portion of the Union lying north of California and west of the Rocky Mountains, known latterly as the Pacific Northwest, which embraces the State of Oregon and the Territories of Washington and Idaho, and occupies an area more than equal in acreage to the entire breadth of New England and the four original Middle States.

The tourist leaves San Francisco in a staunch, unwieldy propeller, of uncertain age and still more uncertain motions, and enduring for a while the benefits of a rollicking sea, by no means as "pacific" as its name would indicate, turns into his narrow berth, and with numerous compulsory tributes to Neptune, resigns himself to the spasmodic visits of a stolid stewardess, and bewails the spirit of adventure that beguiled him into the journey. After a day or two thus spent in abject misery, he finds himself growing too tired of his comfortless berth to longer remain in it, and being like Mrs. Dombey, constantly importuned to "make an effort," he rises, to find the seasickness gone and himself admonished by the cravings of appetite of the necessities of the inner man.

The ship keeps near the Oregon shore; so near that the fir-covered mountains seem to dance attendance upon the vessel's motion. But the scenery scarcely varies from the undulating monotony of eternal sameness, and the eye grows weary of its riot in the unchanging green upon the one hand and the illimitable void of the restless ocean upon the other. But after two, or at most three, days of steady progress, the steamer passes Tillamook Head, and nears Point Adams in the foreground, while away beyond the foaming waters of the Oregon River, and standing ever as a silent sentinel to guard the adventurous wanderer upon the seas, is the promontory of Disappointment, lately named Cape Hancock, though why, nobody can imagine.

The scenery is no longer monotonous. The dreaded Columbia Bar happens at the time of our crossing to be upon its best behavior, and we glide through the channel and up onto the peaceful bosom of the

mighty river, half provoked because of our former solicitude. Upon either hand are lofty mountains, covered with perennial green; and after awhile Astoria glides along the line of vision, like an imperceptible change in a panorama; and we soon halt the unwieldy vessel beside a slippery dock, where thousands of tons of salmon are awaiting shipment. A day's travel up the Columbia, followed by an hour's sail up the Willamette, and we reach Portland, the head of ocean-steamer navigation, and the front of the commerce of the Pacific Northwest.

I was not acquainted with a single individual in Portland and the time dragged heavily. To add to my discomfort, the autumnal equinox was in its prime, and a rainstorm raged fearfully. But the residents of Portland do not mind the rain. They are used to it; and they only jested when I complained that I could not go out. Finally, in sheer desperation, I gathered courage and went aboard a river steamer, my destination the Dalles of the Columbia, one hundred miles in the interior of the State.

Of the magnificent scenery in store for me, I had heard much; but was not prepared for the display of Nature's grandest freaks that everywhere greeted my wondering eyes, as the good steamer stemmed the rapid current and bore us onward into the very heart of the mountains. The outlines of many of the huge rocks seemed perfect, and retained their regularity on near approach; and what struck me as being rather remarkable was the cone-like shape of many of the huge boulders. I was up in the pilot-house all the morning, and the good-natured captain pointed out the places of interest and pleasantly answered my questions, which were not few.

It was night when we reached the town of Dalles, a wind-worn skeleton of a place, where a dilapidated hotel afforded what seemed precarious protection from the gale that fairly blew a hurricane. I passed the night in sleepless disquiet, and was sitting the next morning in the dingy parlor in a disconsolate mood, when a lady entered who brought with her a magnetic atmosphere that at once attracted me. She was above the medium size, well dressed and well proportioned, with light-brown hair, arranged in the latest fashion, but without any attempt at display. Her eyes were of that deep nut-brown color that you would almost contend was black, and were filled with a kindly radiance that at once interested me. She seemed well acquainted with every late arrival, except myself, and as she turned to me with a look of kindly inquiry, that had an eloquent, yet unspoken welcome in it, I longed to know more of her. A traveling acquaintance seemed to interpret my wish, and I was introduced to Mrs. Abigail Scott Duniway, of Portland, Oregon, editor of the *New Northwest*. An hour of enlivening chat followed; the lady in question seeming to know everything and everybody, yet with no attempt at display. Her atmosphere filled the house, and in a little while I forgot my depression and loneliness in the charm of her conversation.

After awhile she excused herself, as she had business to attend to, and I saw her no more till evening, when she came in pale and weary, saying she had not been strong this summer, nor able to perform near all of her accustomed duties; that she had failed for the first time in her life to fulfill all of her engagements, and the cares of her business pressed heavily.

In the morning I had wondered if she were ever tired. Now I saw that she was a woman after all.

"You will please excuse me," she said, rising to retire to her room, "for I am suffering with a headache."

With this she bowed herself out of the parlor, and a gentleman looked after her and said, "There's a woman who performs more mental and physical labor than any four men of my acquaintance. It's little wonder that she's breaking down."

"She is to lecture for us in the Congregational church to-morrow night," remarked another.

With a mental resolve to hear the discourse, which I was told would be upon "Law and Liberty," I took a train the next morning before the lady had made her appearance, my destination being Celilo, a railway and steamer station some sixteen

miles distant, where I spent the day among the wilds of nature and returned at night to find that the leader of the choir in the church had refused the key of the edifice to the trustees, and Mrs. Duniway was minus a place to lecture in. I was cruelly disappointed; but pretty soon the lady made her appearance, neatly attired in black silk, a smile of serene composure lighting up her expressive face.

"I am keenly disappointed," I said, earnestly.

"You need not be," was the cheerful reply. "I've spoken to the landlord, and he says I may lecture in the bar-room."

"And will you?" I asked.

"Why, certainly," was the decisive reply. "Why shouldn't I?"

"Are you often treated in this way?"

"Oh, no, not often, latterly. I am very seldom refused a church nowadays; though once in a while I find a feeble-minded bigot in authority, who feels compelled to protect his idea of the Deity from woman, and does it with a lock and key. But it's all right. This very opposition will set the people to thinking."

I confess that I did not share Mrs. Duniway's serenity. I feared that the citizens would not come to the bar-room—a large, ungainly apartment, with a stack of trunks against one wall and a row of shelves filled with whisky-bottles opposite. But they did come, and the room was packed.

Just as the clock struck eight Mrs. Duniway appeared, bearing in her hands the "Statutes of Oregon," a cumbrous tome in sheepskin, from which her points of "Law" were all taken, while her ideas of "Liberty" were collated from the Declaration of Independence.

It was a novel scene. Not far away sat the landlord, who was just recovering from a periodic "spree." Evidently he believed in Mrs. Duniway, and like all men I have met who knew her, respected her highly. After a little while, something she said excited his admiration, and he exclaimed, "Bravo," in a maudlin tone. This remark was followed by a general laugh. Mrs. Duniway left the counter, behind which she had been standing, and approaching him in a kind and fearless way, said something that the audience could not hear; but all knew by her manner that she had kindly begged him to be quiet. The effect was electrical, the audience being as much affected as the landlord.

Returning to her post as quietly as she had left it, Mrs. Duniway began to arraign the "Aristocracy of Sex," as she styles the Government of the United States, and her voice rang out in earnest, mellow tones the words, "He has refused his assent to laws the most wholesome and necessary for the public good!" Then for an instant she paused. Before her was the array of black bottles upon the shelves, and hard by the drunken victim of his own occupation.

"Men and brethren, have not the women of your Republic besought you, in the most humble terms, to pass a law for the removal from our midst of the fearful poison that men put in their mouths to steal away their brains?" she asked; "and have you not, as law-makers, refused to do so, although yourselves must know that the laws we ask for are the most wholesome and necessary for the public good?"

And while the landlord, whose hospitality we were enjoying, bowed his head in silence, an interest that could be felt was in the air.

For an hour and a half the speaker held her audience under the irresistible spell of an eloquence that is heaven-born. At intervals she would repeat some fragment of appropriate poesy that only increased the interest of her auditors. Then, by way of illustration, she would tell some touching story that would move many to tears. Occasionally the humorous prevailed, and the house would be fairly convulsed with laughter.

Alluding to the fact that the church had been closed against her, she said that she had once had a difficulty similar to that in a place where Fred. Douglas came along to lecture; and lo and behold! the City Hall, free entertainment at the best hotel, the brass band, and all desired facilities were placed at the disposal of the colored orator, who said, patronizingly, "Never mind, my dear madam, once they wouldn't provide me a hall or church to speak in, and I had

to lecture in the streets. They wouldn't let me stop at the hotel either, and I had to quarter myself on my colored friends. But I'm all right now; and after a while, when you become a voter, you'll be treated as well as a *nigger*."

I do not think this sketch would be complete without the poem with which she closed her discourse:

"THE SPIRITS OF SEVENTY-SIX."

I SAT me down in old Carpenter's Hall,
In the city of Brotherly Love,
In the quaint high-chair in which Washington
Presided, when Randolph and Jefferson,
And Adams and Lee, and a clergyman,
Bowed low in the shade of the twilight's fall,
And invoked the great Father above.

The city was full of the guests of the world;
For 'twas the Centennial year;
And the Orient bowed to the Occident,
And an Emperor greeted a President,
And a Congress met with a Parliament,
And banners of China and Ind' were unfurled
Beside ensigns of old Tangier.

As I mused in the depths of the gathering gloom
Of the twilight, chilly and gray,
Recalling the deeds of the days agone,
Before me, like specters, and one after one,
Came the "Spirits of Seventy-Six," who are known
To throng the shades of the silent room
Whenever the night holds sway.

The shadows around me grew gloomy and deep,
And the night in her draping of clouds
Filled the room with a chill that enveloped my head,
And a gloom, that o'ershadowed my soul, took part
With a thought that transcended the Muse's fine art;
And the Heavens began in their sorrow to weep,
And the generous paused and bowed in their shrouds.

"Good-evening," said I, as a masterly ghost,
With eyes of a heavenly blue,
Stopped short in his walk, and, with Chesterfield bow,
Said, "Madam, who are you, and what want you now?
Why disturb us, and why is that frown on your brow?
The chair you have taken is Liberty's post,
Give it me, and I'll bid you adieu."

"Indeed, sir," I said, "I'll not yield the chair
Till this spectral performance is o'er;
Till you tell me why men, though as ghosts, have more right
To this room than have I. Who are you? by what might
Do you claim sole use of this old Hall to-night?
Why assume such a proud, dictatorial air?
Have you all been here, good spirits, before?"

"I belong to the days of the Past," he then cried;
"Ere the Goddess of Freedom was born;
When Columbia in travail bit back the keen throes
That were frowned at and sneered at by Liberty's foes,
Who pity had none for her pains or her woes;
'Twas *I* called the demon of war to preside
O'er her destinies great, but forlorn!"

"And does Liberty live?" I replied, in surprise,
As I gazed on the phantom so bright.
"She does; but in bondage," he said, and a tear
Stole adown his pale cheek, as with listening ear
He gave quiet heed while I, quaking with fear,
Unfolded a tale that wide opened his eyes,
Till they flashed with a cavernous light.

"You have taught us that Freedom is Heaven's decree,
Yet your precepts you fail to enforce;
And I marvel not much that when night comes you walk
In a fitful unrest; that, like Banquo, you stalk
Through this gloomy old Hall, while to mortals you talk
Of poor Liberty's fate; for, till woman is free,
Confusion confounded grows worse.

"And now as I sit in your old chair of state,
At the end of a grand hundred years,
And look back on the work that e'en yet is undone,
I'm astonished, good sir, that you ghosts, every one,
Shrink not from my gaze, as from blaze of the sun,
For the mothers of men are in bondage as great
As caused all your bloodshed and tears."

George Washington sighed, and each listening ghost
Waved his hand in the cavernous air,
And the old Hall grew bright with a radiant light,
As Liberty, robed in a raiment of white,
Approached me and said, with a smile of delight,
"In the next hundred years I shall fill my own post!
Good-bye, George." I gave *her* the chair.

I do not wonder that the people who know Mrs. Duniway purchase her "David and Anna Matson." I find it on almost every center-table in the Pacific Northwest. Many bought it at the close of her lecture in the Dalles; and when her shattered health becomes fully restored, I have no doubt she will introduce it at her lectures all over the Union. It surprises me that she should have written an epic upon New England life, when one from life nearer Oregon could afford a more brilliant field for her wonderful powers of description.

MRS. E. H. THOMAS,
Oakland, Cal.

CROOKED HABITS. — While shaking hands with an old man the other day we noticed that some of his fingers were quite bent inward, and he had not the power of straightening them. Alluding to this fact, he said: "In these crooked fingers there is a good text for a talk to children. For over fifty years I used to drive a stage, and these bent fingers show the effect of holding the reins for so many years." This is the text. Is it not a suggestive one? Does it not teach us how oft-repeated acts become a habit, which once acquired, remains generally through life?

PEACEMAKER GRANGE.

CHAPTER XX.

LARGE books might be written about Peacemaker Grange; but the much-mistaken public has as yet caught only a very faint glimpse of that beautiful hereafter, in which the existence of such institutions shall be the rule, rather than the exception.

We began with Judge Templeton and Farmer Hallett in the far West; we found them next upon the little steamer, sailing from Washington to the mysterious abode of the Peacemakers. We have surveyed — some of us with great delight — the grand unitary buildings. We have wandered through those buildings, observing their wonderful internal arrangements, whereby the greatest good of a great number of persons is obtained at the lowest possible cost.

We have wandered through the great plantations, with their vast variety of products. We have seen in the factories and workshops every one busy, every one contented, every one enjoying a frequent change of employment, and full exercise of all his or her discoverable aptitudes. We have seen the great store-houses filled with the winter supply of food for a thousand people. We sat in the restaurant enjoying all amenities of both private and public conviviality. From time to time we sat with the worshipers in the chapel, and saw that while these people are by no means bigoted, the highest morality and religion are their central thoughts. We found that while no one who desired it ever lacked an abundance of exquisitely congenial society, those who desired solitude could there obtain it more thoroughly than in any ordinary mode of living. We found everywhere order without despotism, freedom without licentiousness, comfort without sordidness, happiness without feverish pleasure.

It was apparent that in Peacemaker Grange, the fear of poverty, "through which we are all our lives subject to bondage," was quite unknown. This band of noble men and women had so long fought the battle of life side by side with success, that they felt that nothing could sunder, nothing could overthrow them, short of a general bloody revolution in the land.

We have studied the industrial and financial relations of the Peacemakers; have seen that by carrying out one of the grandest conceptions of Fourier, the very selfishnesses and cupidities of the people were made to balance each other. Continually changing their employments, leading in such branches as they were the best masters of, they cheerfully submitted to be led, when engaged in those branches of industry, the leadership of which had been shown by long experience to belong to others.

Right here the reader should be reminded that all the industries of civilization, including agriculture, are undergoing rapid changes. Whether such schemes as have been presented in this story shall be generally adopted, or not, the fate of all the old methods is sealed.

More and more what is called the division of labor must characterize manufacturing. In the making of boots, for instance, the most successful manufactories have ceased to allow one man to make the whole article. There are cutters, crimpers, heelers, etc., each sticking to his own specialty. Although it is evident that the working on such a narrow range, and using so few mental and physical faculties in a given time is ruinous to human creatures, it is evident that there is no escape from this ruin, as things now go. The shoe manufacturer knows, or thinks he knows, that he can get a greater aggregate of work from a man, by keeping him all his life at cutting or heeling, therefore his selfishness will induce him to compel his employés to follow these dull, monotonous routines.

Nothing but coöperation in all the relations of life can rescue the factory hands from this hard fate. When they own their own factories, they will say: "We will risk some loss in quantity, and even perhaps in quality, of our products, rather than deterio-

rate our manhood by leading an unnatural life. If we make boot-heels during a portion of the morning, we will go forth among the tillers of the soil the rest of the morning. If we push the plane a portion of the afternoon, we will run a factory loom to close up the day's work. So shall we be men, and not manikins."

And now what shall we say of those members of the Peacemaker Society and their guests, who have been the prominent personages in this narrative? We left them all "doing as well as could be expected," except the Rev. Edgar Anthony and our lady professor of Belles Lettres. Sorry as we are to part abruptly with this interesting couple, leaving them both quite undecided whether each should be, at some future time,

"A nearer still, and a dearer
Yet than all other—"

to the other. Space will not permit the following of the interminable ups and downs of their eventful intercourse. A whole volume should be devoted to its portrayal. *Money could not buy from us*, at present, the secret of "how it came out."

As to Farmer Hallett, he had succeeded, long before the period considered in the last chapter, in bringing his wife and family to the Grange. A curious crowd they were, until they became assimilated with the mass of average persons in the Association. The wife for a while found nothing suited to her, and bristled like the fretful porcupine; but possessing a mental substratum of common sense, she soon began to appreciate this "Gospel of Newness," and then everything suited her.

Among the five children there was a boy of ten, particularly rantankerous—the departed spirits of the great prairies seemed to have entered into him. On the day of his arrival, he was as much of a curiosity to the young people with whom he came in contact, as would be any strange fish of the New York Aquarium. Imagine the astonishment of a stout young Peacemaker, a little older and stronger than he, to whom, approaching in the attitude of the manly art of self-defense, he said: "Do yer want ter fight?" Receiving no response but a look of open-mouthed astonishment, he "let in with his terrible left" upon the right ear of the peaceable one.

The instinct of self-preservation instantly suggesting methods to the son of peace, the wild youth of the prairie suddenly found his hands pinioned behind him, while his indignant captor said quietly: "You little lunatic, we will have to teach you better manners than that." It did not take long for the resistless machinery of this great training-school to bring even this uncouth lad into a proper shape.

At the time in which we are leaving the persons whose career we have been following, no remarkable changes had occurred in their history since the events narrated as taking place in the fall of the panic year, 1873. Still did the pastor maintain his watch upon his high tower. Still could he often be found in the small hours of the night keeping vigil in the chapel, and wrestling like Jacob with the angel of the Lord for a blessing upon his people. Shrewdly did his practical wife manage to keep him still tethered to this nether earth. Sweetly the sweet singers sang in the chapel. Madonna-like, stood there the Judge's wife, in silent and in spoken prayer. Wisely, and still more wisely, did the Judge conduct the business affairs of the Society, greatly aided therein by the new convert from Wall Street. Ever more joyful and tuneful was the chorus of the fishermen over their well-filled nets. Everywhere was evident increment of harmony, and that wondrous orchestration which is as sure to result from a truly scientific reorganization of society, as were the stars and planets to fall into normal courses, when sent forth by that vast, unerring Intelligence that manifestly did send them forth.

Blithely the field-groups went afield, and the all-pervading spirit of harmony led them also to chant sweet carols. And in the workshops, where noiseless labor was in progress, the impromptu song would oft break forth. At other times one would read aloud, while the others worked. At times when some arduous task (say of ditching) was on hand, which necessitated soiled clothes and masculine muscle, and which those engaged in it preferred to continue

at until it was finished, a company of their wives would go out to them in large carry-alls, bearing with them a well-cooked dinner, stored in a newly-invented apparatus, which delivered it to the hungry men just as it came from the great kitchen.

While all over the land usury and exorbitant rent and profits—the great curses of our race—were eating up the people; while British free trade and bullion currency—twin ogres—were scoffingly offered as a remedy for our troubles, the men and women of this Society knew no fear—felt themselves under "the shadow of a great rock in a weary land." At one time for six months they experimented in depending entirely, except as to a few tools, upon the products of their own domain. After that they felt doubly safe.

This chapter concludes all that is to be said at present in this magazine about Peacemaker Grange. It is certainly encouraging to the advocates of social reorganization that for two long years the readers of the PHRENOLOGICAL have even listened, from time to time, without apparent murmur, to this exposition of ideas, many of which it has been the fashion for the last quarter of a century to consider quite abominable. It is evident that even the most conservative readers have been induced to at least reserve judgment, because of the apparent sincerity of the writer and his disposition toward fair and square dealing with all the subjects handled. For twenty years previous to the gloomy epoch in which we now find ourselves, he, with a few other Americans, had been refusing to join in the general acclamations, scarcely interrupted by the war, over the supposed fact that in this land we had arrived, at least, at the Year One of universal human felicity. He saw that we had made, in reality, no new departure, and that only our vast extent of unused soil, open to all settlers, was postponing in the United States all the misery of Europe. Continually full of sad foreboding all through these years, concerning the future of this "beautiful land," and this vigorous young nation; and desiring to do something in the way of helping to remove the evils that oppress the country, and some constructive work in the way of suggesting or furthering such changes in our social and political systems as would tend to the permanent well-being of the nation, he has adopted a method of attaining these ends somewhat different from that which is now fashionable among progressive people.

While entertaining a thorough respect for all the sincere and earnest modern scientists, and endeavoring, as occasion offered, to gain an understanding of the more valuable fruits of their efforts, he has felt that their somewhat arrogant claims should not be wholly yielded to. As to his own culture, he has felt with one of old that wisdom was the principal thing, and that it was a very different thing from mere learning. He felt that if he would attain to a genuine helpfulness, it must be through such a balance of faculties and acquirements as would enable him to rightly distinguish between things that differ. Therefore his prayer to heaven has been, "Above all things give me wisdom; show me how to acquire it." While thirsting for all knowledge, and earnestly desiring a thorough acquaintance with the works of the great scientists, metaphysicians, historians, philosophers, etc., he has always guardedly approached such studies, and has daily inquired of himself before engaging in them: "Is there nothing that I can do for my moral and spiritual culture and elevation, that will tend more to enhance my usefulness, than the acquirement of this much-coveted learning?" As a consequence, he can not boast of any extraordinary attainments in science or general learning. He has aimed, and he trusts not in vain, at that good old-fashioned wise-heartedness, so often referred to in the Mosaic writings, which may be considered a result of a thoroughly even, normal, and parallel cultivation of the head and the heart—that is, the intellect and the moral sentiments. That the course he has pursued in this regard has led him to conclusions quite other than those generally received among the most prominent moral and religious teachers, and social and political economists, has been a cause of much grief, and much bitter practical discomfort to him. He can only remember that most very useful persons have been born at least

"A hundred years too soon
For the comfort of their days."

SAMUEL LEAVITT.



It is only by training all together—the physical, intellectual, and spiritual elements—that the complete man can be formed.

TEA AND WEAK BACKS.

IN the November PHRENOLOGICAL the reader saw, doubtless, a short paragraph in which one of the doctors recommended the administration of tea in cases requiring severe surgical treatment, on account of its peculiar influence as a nervine. In the extreme depression incident to an injury which demands the removal of a limb by amputation, tea may serve a useful purpose, and thus prove a true medicine, while drinking it when one is in health may be abnormal and harmful. In support of this view we cite the opinion and experience of another doctor, J. Adams, of Toronto, which have been recently given to the public through the pages of a little book on electricity and the use of coffee, tea, tobacco, and alcohol. Weak backs are so common, especially among women, that any new suggestions are appreciated. Dr. Adams proceeds to say:

"Some seventeen or eighteen years ago my attention was providentially directed to the action of tea upon the urinary and sexual systems, and each succeeding year's experience has strengthened my convictions of its baneful influence upon the human race, by engendering and maintaining an unnatural excitement of the sexual organs, and I do not hesitate in affirming that to the constant use of tea may justly be attributed much of the fearful sensuality that prevails around us. This is very easily understood when we reflect that tea exerts, first, an exciting and subsequently a debilitating influence upon the nervous system in general, and the lumbar portion of the spinal marrow, commonly called 'the loins,' in particular. Why this is I do not pretend to explain; all I know is that such is the case, and if those in the habit of using tea and suffering from the consequent *weakness and pain in the small of the back*, will only abstain from its use for three or four weeks, the relief they will experience will satisfy them of the truth of my assertion.

"A year ago a young, square-built girl came to me for advice and medicine for the backache. 'Oh, doctor,' said she, 'I shall have to give up my place and go back home, for I can't stand the work; it makes my back ache so badly.' 'Give up your tea,' said I, 'and you will soon lose your backache.' She agreed to follow my advice for a month, and after giving her a little medicine for her general health I dismissed her, never expecting to see her again, as my advice in such cases is rarely followed for more than a week. But, to my astonishment, she returned in a month, bright and smiling, and hardly had time to get into my office before she exclaimed: 'Oh, doctor, I'm never going to drink tea again. Would you believe it, I hadn't taken your medicine and given up the tea for a week before the pain was out of my back, and now I feel stronger than ever.' As I have not seen her since, I am in hopes that she has profited by the lesson, which is more than I can say of many another patient who, after being relieved of her backache, has returned to her tea—and consequent suffering.

"While, then, the primary action of tea is to exhilarate and excite, its secondary effects are to enfeeble the nervous system and produce depression of spirits, languor, excitability, irritability, disinclination to active employment, weakness and pain in the back. These symptoms may be temporarily relieved by a fresh supply of tea, just as the trembling hand of the drunkard is steadied

by a fresh glass of liquor, but only to be followed by increased nervous prostration; and this continued round of stimulation and relaxation naturally wears out the human frame long before the allotted time.

"The loss of a few years of life would be a matter of less importance, were it not that premature decay of the nervous power is invariably accompanied by distressing ailments, such as nervousness, sick headache, dyspepsia, neuralgia, sleeplessness and its too frequent result, insanity."

MY LIVER.

WHAT makes this world so drear and sad?
Why am I never, never glad?
What is it drives me nearly mad?
My liver!

Why do I moan, and sob, and sigh,
And wish, ay! wish that I might die?
Why would I pass from earth, oh, why?
My liver!

What is it on my heart doth seize;
Then come in form of cough and wheeze;
Then makes me think I've Bright's disease?
My liver!

Whence is this spinning in my head?
Why are my pulses almost dead?
Why doth my stomach feel like lead?
My liver!

What makes me sausages eschew,
And buckwheat cakes and mince-pie, too,
And ev'rything that's iced? Boo-hoo!
My liver!

What is it, day and night intent
On ev'ry sort of devilment,
Doth all the ills to me present?
My liver!

GROUNDWORK OF HEALTH.

No. IX.

ALTHOUGH it may be said that we should be ready to do the so-called menial offices one for the other, yet the time is undoubtedly approaching when those offices will not be fulfilled for "pay." Sound health of mind and body, as an universal rule, is unattainable only by the perfectly equitable distribution of labor and its rewards, not as now understood, but absolute. All is tending in that direction. Of course the so-called conservatives put as far away the time of this emancipation as possible. Probably a medium between the two extremes is best, as avoiding iconoclasm.

No one questions the desirability of health; yet extremely few are ready to obey its laws. Self-knowledge and self-control are so seldom found in one individual that the true exponents of hygiene are rare. In this age of peculation and dependence the ability to clearly define health is almost impossible. As John Stuart Mill says: "The faculty of arousing the necessary opposition to evil without at the same time exciting the enmity and opposition of those we would like to benefit, is rare." Even after one is convinced that a better way is found, it is hard to persuade the following.

Humanity is mapped out and farmed out so completely, that the moment the finger is outstretched to point a better road, a clamor is raised by the throng that profits by evil. And those that do not, either directly or indirectly, profit thereby, are in such a hopeless minority that the only way out of the labyrinth is by education, and an entirely new system of education at that. The system might be called Hygienic and Industrial; but as no health is possible without some industry, it would seem sufficient to call the new school Industrial.

Following known data to logical and truthful deductions, no one has a right to ask of another menial office or so-called duty. The moment such is asked or accepted, that moment the borderland of slavery is entered upon. What matter if I be a pampered child of slavery. Must I stultify the nobility of my own nature in obedience to dictates of self-inthrallment? Who would see the world emancipated, must first emancipate themselves.

The first step toward this is the virtual doing of all the work—call it drudgery, or what you will—necessary to a subsistence. Mind you, this is not placing an entire bar upon the division of labor. Such division is salutary, if not carried to extremes. *But the laws of health demand a certain restraint to be placed upon the division of labor, else the stronger soon compel the weaker to do all the real work.* F. M. S.

ANCIENT COOKERY.

Primeval Cookery—Gross Violations of Nature—Yeast—Expensive Eating—Effects upon the Taste—Seasonings—Romish Cakes—Garum—Artificiality.

VERY often is a history locked up in a word. It is certain that the words in which our ancestors expressed their thoughts come down to us and help to influence our thoughts. The structure of our language has been greatly influenced by the ancient languages, and the Greek and Roman classics are considered so important that they are made text-books in our schools. Is it not possible that our cookery may also have the same stamp, and that as unconsciously as we press into service the classic thought and classic word, we may also follow the classic taste in classic recipe? As our words have come down to us in mother tongue from generation to generation, as the son speaks like his sire, so the daughter cooks like her mother, using styles and condiments, dishes and recipes, that her mother used before her.

Where did they originate? So far as our observation goes, women are not much given to devising new dishes. It is true that changes come, perhaps through accident, perhaps through stress of circumstances, but often with as little thought as might be given to the gradual change of a word. But if classical literature has had an important influence on our modes of thought, is it not much more probable that classical cookery may have had quite as important an influence on our modes of living, and through them upon our health?

We have reason to believe that

PRIMEVAL COOKERY

was exceedingly simple. Our first glimpse of it is in the patriarchal tent of Abraham, where Sarah kneaded "fine meal" and made cakes upon the hearth, which were served with the dressed calf and butter and milk. For aught we can see in the text, the patriarch himself cooked the calf, and if he did so, he was justified by noble company. His own grandson is represented as making a pottage so seductive as to beguile his brother of the birthright. The heroes of Homer did their own cooking. Achilles turned the spit. Their exact methods of cooking are not very carefully recorded, and it is probable that the women did the most of the culinary work, yet the mention of many such circumstances seems to indicate that it was done with very little art and upon occasion by those who needed it. Roasting meat before the fire or seething it in a pot, and baking cakes in the hot ashes on the hearth were probably for ages the highest achievements in that line—wholesome cookery indeed! Shall we say that it were better if we had never departed therefrom? Is it true that man in this respect, in his best estate, is a barbarian, or shall we take the results of a long experience in waywardness and learn how to come back to nature intelligently and permanently?

The first

GROSS VIOLATION OF NATURE

we find in the leaven which apparently the Hebrews learned to use among the Egyptians. This was simply sour dough, usually kept by reserving a piece of the bread-dough until the next baking. This addition excited fermentation in the mass more readily than if left to sour of its own accord. With the increasing fineness of their flour had come the need of something to make it light, and as they had not our ovens or gem-pans or our other intelligent devices for making bread at once light and wholesome, they accepted this chance device of leaven and used it for centuries; indeed, it is still in use. There is little doubt that its impure character was partially recognized among the Hebrews, for in some of their ceremonial purifyings all leaven and all fermented articles were removed from the house.

The first traces we find of

YEAST

are in the writings of Pliny. He says that for leaven the Romans mixed millet with sweet wine and let it ferment a year! They also employed wheat bran soaked for three days in sweet white wine and dried in the sun. Of this they diluted a certain quantity at the time of making bread, which was left to ferment in the best wheat flour and af-

terward mixed with the entire mass. This is our present style of "sponging," plainly enough, though the "yeast" is not so definite. Indeed, these and the following items show that the Romans at that time did not use yeast in its present form: "A dish containing two pounds of barley paste was heated until ebullition commenced. It was then put into vessels until it became sour. Very often leaven was procured from dough just made. A piece was taken from the mass and left to turn sour for subsequent use." In addition to all this, Pliny goes on to say that the Gauls and the Spaniards, after having made a drink from grain, *saved the scum* to raise dough, and that their bread was the lightest of all. Perhaps some of our readers will recognize this as having the same origin as our "brewer's yeast;" to others, who never before looked so far, it will unfold the not over-clear origin of the first cup of yeast—the filthy scum of the decaying liquid in the brewer's vat. Verily, they did find something at last wherewith to make their bread light, but it was at a rather severe cost to its cleanliness and nutrition.

In the gratification of the palate and the fancy, the Greeks and Romans at last launched upon a mad whirl of artificiality, which delighted in outraging all laws of nature, moderation, common sense, and even decency. One hardly knows where to begin the strange list, unless indeed we begin with the degeneracy of aims, the grossness of greediness, and the recklessness of expense which permitted such extravagances.

EXPENSIVE EATING

came to be apparently the only ambition of the Roman people and their rulers. Their senators vied with each other in giving the most extravagant dinners, and their emperors took the lead to such a degree that some of them are noted only for the extent of their appetites. The Emperor Claudius sat down to table at all hours and in any place; nor did he leave the repast until distended with food and soaked with drink, and then only to sleep. When he awoke, a tickling feather relieved him of his surfeit, and he was ready to eat again.

Many of the gourmands became great adepts in the use of the feather. Vitellius used it so effectively that he could cause himself to be invited to dinner by several different senators the same day. Little he cared if it should cause their ruin; for they could not venture on such a banquet at a less expense than 400,000 sesterces ($16,000), and this was but a moderate sum. Lucullus served Cicero and Pompey with a little collation that cost $5,000, and there were three of them to eat it. How they could expend so much may be easily seen if we examine their dishes, which were little prized unless procured at great expense. The hard flesh of peacocks, at forty dollars per pair, was preferred to that of cheaper but more delicious poultry. But since many could avail themselves of peacocks, even at this price, those who would not be outdone had dishes of peacocks' brains. Another dish was composed of the tongues of singing birds. Young pigs were fed on dates; geese were fattened on figs, and their livers alone were used, being soaked in milk and honey—the forerunner of the modern *paté de foie gras*. Fish were in great demand, and those which were brought the greatest distance were the most highly esteemed. Whole fleets of ships were employed in bringing these and other dainties from abroad. Roman nobles would not unfrequently pay one hundred dollars for a single lamprey. Mullets sold as high as from seventy-five to one hundred dollars each, and it is related that Crispinus paid three hundred dollars for one weighing six pounds, and considered it cheap at that. In the reign of Tiberius three of these were sold for over one thousand dollars. What, then, must be the cost of dishes composed only of the livers of these fish? Heliogabalus had upon occasion two large dishes filled with their gills only. At last the wealthy built expensive reservoirs and kept their own fish, though not with a view to economy, for they fed them with the rarest dainties. It was even said that slaves were sometimes thrown in to satiate these pets, but whether this be true or not, their sea-eels were commonly fed with veal soaked in blood. Other sorts were taken from the

river just where it received the filth from the entire city.

In wonder it may well be asked what had become of the common sense and decency of human nature. We can account for these excesses and atrocities only by observing the entire departure of the people from natural rules and their utter abandonment to the artificial. Instead of studying into the nature of their materials, with a view to producing the greatest harmony in their combinations, they seemed to consider it a crowning achievement if they could entirely obliterate all traces of their real nature and substitute therefor whatever was most foreign and not recognizable. Fish of various sorts were served up to resemble pork, veal, beef, or mutton, and *vice versa*. Vegetables were cooked to resemble meats, and meats disguised to resemble other substances. Eggs were served, which on being broken were found to contain fat ortolans. The cook of Louis XIV. who on Good Friday served up a dinner apparently composed of poultry and butcher's meat, but which was really nothing but vegetables, had a good deal of the same spirit, and must have had no small amount of practice to bring about such results.

But what of the

EFFECT UPON THE TASTE?

It is related of one of these old gourmands that he was seized with an invincible desire for loaches. It was in the middle of the night and they were far from the sea. He had no idea where the loaches could be obtained, but loaches he must have, and his chief cook was summoned. "Loaches, sire!" cried the man in dismay; but the command was imperious and must be obeyed. This cook was more skillful than the noted Vatel, cook to the Prince of Caudé, who when he found that his master was to entertain the king at dinner, and there were no fish to be had, went to his room and threw himself upon his sword. The demand for loaches sent this man to his room, not to kill himself, but to study and experiment. Before long he came forth with a plate of fried loaches, irreproachable in appearance, and as to taste the gourmand declared he had never before eaten any he liked so well! And of what were they made? Of radishes pared, cooked, and seasoned. But if we admire the skill that could prepare such a dish, what must we think of the taste that judged it?

Of this taste we may judge partly by their

SEASONINGS.

The following ingredients composed their sauce for crawfish: honey, vinegar, wine, garum, oil, chopped onions, pepper, alisander, carrots, cummin, dates, and mustard. The following is stuffing for a crab: cummin, mint, rue, alisander, pine nuts, and pepper, soaked for a long time in garum, honey, vinegar, and wine. The following made sauce for roebuck: pepper, parsley seed, dry onion, green rue, spikenard, honey, vinegar, garum, dates, wine, and oil. The following is the entire recipe for a dish of ducks' brains: "Cook some ducks' brains and mince them very small; then place them in a saucepan with pepper, cummin, benzoin-root, garum, sweet wine, and oil; add milk and eggs, and submit the whole to the action of a slow fire." The celebrated Apicius gives this dressing for roast duck: "Make a mixture of pepper, cummin, alisander, mint, stoned raisins or Damascus plums; add a little honey and myrtle wine; place it in a saucepan, cook, and then add to these substances vinegar, garum, and oil; afterward, some parsley and savory."

ROMISH CAKES.

We find a large share of the recipes equally absurd; we select a few cakes from Apicius: "Mix pine nuts, pepper, honey, rue, and cooked wine; cover with eggs well beaten; submit this mixture to a slow fire, and serve after having smeared it with honey." Again: "Make a compact mixture of honey, milk, and eggs; let it cook very slowly, and serve after having sprinkled it over with pepper." Less elaborate cakes were made with cheese and rye or other kinds of flour, and sometimes with the addition of eggs and honey. Sugar they did not have, hence dates, figs, and honey were their principal sweeteners, but cheese was a common ingredient of their cakes. Here is one of the most simple: "Half a pound of flour, two and a half of cheese, three

ounces of honey, and one egg. As soon as baked it was smeared with honey and dredged with poppy seed." It was eaten with spoons. We should hardly accept it now, either for taste or wholesomeness, though it is not quite so gross a conglomeration as the sauces already given.

It will be noticed that every one of these included

GARUM.

This was the "universal" sauce of Roman meat cookery. Like the East Indian curry, it went into everything. We have no such universal seasoner, unless it be salt. Catsup and Worcestershire sauce, as used by some individuals, afford some illustration, only that these find their place in the caster, while the garum was usually added by the cook. In a collection of old Roman recipes now before me, of fifteen for preparing chicken, lamb, and kid, twelve contain garum. Its character betrays at once the coarseness of the Roman taste and the uncleanness and artificiality of Roman food preparations. Its essential ingredients were salt and decayed fish. They "macerated the intestines of fish in water saturated with salt until putrefaction began to show itself, and then they added parsley and vinegar." "A thick garum was also frequently obtained by allowing the entrails and other parts generally thrown away to liquefy in salt." "In the time of Pliny mackerel was preferred, of which they employed either the gills or the intestines."

So if any one wishes to get a tolerable idea of the character of this famous Roman sauce, let him visit an ancient and deserted barrel of salt mackerel, in which some of the fish have been left to spoil, and secure some of the delectable brine. He will probably find it sufficiently revolting to his unaccustomed taste, without attempting to manufacture it *en regle* from the gills and intestines. That the above are not exceptionally repulsive methods of preparation, will appear from further recipes. The following was in very common use: "Amatuus took very small fishes or only their entrails and threw them into a vessel with a large quantity of salt. These were exposed to the sun and long and frequently stirred. When heat had caused fermentation and the vessel contained only a kind of pulp or paste, almost liquid, a kind of willow basket was introduced, into which the garum alone could penetrate." "Although fish was generally used, the flesh of several animals was sometimes employed in the formation of garum."

Of course, this was too inexpensive to suit the taste for lavish display, and the "apogee of refinement" was secured by using the liver of the red mullet, the expensive fish we quoted above. Others again used the blood of mackerel or of the mullet, and a quart of this garum, on account of its scarcity and the care necessary for its production, cost from fifteen to twenty dollars. Oeno-garum was a preparation of garum with wine and spices, and eleo-garum was garum with oil and spices; hydro-garum, with water, etc.

"The principal elements of garum, then, were almost invariably the same—fish, salt, and a greater or less fermentation. No doubt this was detestable, but then no one ever thought of regaling himself with this liquid. It was never taken alone, but was reserved as a seasoning for a host of dishes in order to heighten their flavor." Apicius, that greatest of authorities among Roman cooks, "places it in almost every sauce, but never serves it by itself, nor does he use it unmixed." It was so strong and foul that it could not be eaten by itself, but to offset that they befouled all other dishes with it.

Garum itself has dropped out of our legacies from this ancient cookery, and from those impure times; but not so all the principles that lay at the foundation of its use. We find them still in the fermentation, the indigestibility, and the artificiality of many of our food preparations. By fermentation we have prepared a great many poisonous drinks; we have destroyed much nutrition in bread and bread preparations; spoiled many good fruits and vegetables by making them indigestible, as pickles and sweet pickles, and brandied fruits; but above all, we have inherited so artificial a style of cooking that our cooks study the rules, the recipes, and the cook-books, and never the nature

of their materials, only so far as to ascertain their plasticity with regard to shape. This tendency to

ARTIFICIALITY

is one of the greatest misfortunes now in our cookery. It so dominates us that we have very little thought of originality. Women who can invent fashions, trim up or make their own bonnets out of old materials, and make over dresses to look as good as new, scarcely ever get up a new dish for their tables. If they do chance to vary an old style, under the force of circumstances, and get a good result, they seldom follow it up and perfect it until they make a new and permanent dish. And this is largely because they do not understand the principles of cookery or the harmonies of combination. These harmonies are not recognized. They have scarcely seen the light since they were pared into the grotesque shapes that disgraced the Roman tables and drenched into uniformity of taste with garum and kindred devices.

A lady who has had long experience of "skilled" English cooks, remarked to me that their dishes were usually attractive in appearance, but disappointing to the taste. The French women are more apt in their study of materials, and more enterprising in their combinations; but we have only to look into books like that of Blot to see "two bay-leaves and a sprig of thyme," repeated with a frequency that inevitably brings to mind the garum of Apicius. If any thoughtful mind could fail to see the probability of perpetuating error in the unquestioning uniformity with which the daughter follows the mother in her cookery, we might trace the descent of still other preparations that have come down to us like the fattened geese livers, the yeast, and other products of fermentation; but we hope enough has been said to awake a questioning spirit which shall refuse to take any recipe or custom merely because it has the sanction of age. Any abomination sanctioned by age is doubly an abomination, and requires greater energy of effort to contest its demands. We do not wish our Government or people to copy the excesses of the Roman people, and certainly in their later days their excesses had everything to do with their artificial and luxurious cookery. The bare possibility that in our traditional recipes we may be drinking from a fountain so defiled as the Roman cookery, should lead us to seek for fresher springs and for natural fountains. And if we can learn from all this waywardness some reasons for naturalness and its advantages, it will not be in vain that we have studied for a little while the artificiality of a dominant phase of ancient cookery.

JULIA COLMAN.

THE BATH AND GROWTH

IT has been urged often enough through these columns that a frequent washing of the entire body is conducive to health and vigor. The instances of invalids who have been cured or greatly invigorated by a daily hand-bath are so numerous that one who will take the trouble to investigate the subject must be convinced of the efficacy of ablutions.

At the Domestic Economy Congress, recently held at Birmingham, Mr. Edwin Chadwick, C.B., said the effect of cleanliness was not sufficiently recognized. He found evidences of its effects in various ways. Dealing with the animal creation, he said the pig that was washed would put on one-fifth more flesh with the same amount of food than the pig that was unwashed. The same effect was observable in other animals. They had seen the horse washed from head to foot to give it additional force. The same argument applied to the human creature. He knew the case of an army hemmed in by the enemy and put upon half rations. They were regularly washed, and it was found after a time that the men who washed were equal in force to those who were unwashed and put upon full rations. Head to foot washing was not only important in the matter of economy in food, but also for the prevention of contagious disease. Nurses who attended scarlatina cases and other cases of contagious disease had found out that, by washing

twice a day, and sometimes by changing their clothes, they might withstand the dangers resulting from the practice, and doctors who were similarly engaged had come to the same conclusion. As a defense against an outbreak of epidemic disease he would have the whole population tubbed. He mentioned that in a prison containing 1,200 persons, washing was enforced, and instead of using 70 to 80 gallons of water for each bath, and causing a large expenditure of time, a very simple method was devised for giving the prisoners a thorough good bath. Each man was placed in a recess, with a spray of tepid water overhead, which completely cleansed him. Schools at which unwashed children attended were centers of children's epidemics.

We knew a young man, broken down and wasted to a mere skeleton by rheumatic disease, who took the place of an assistant in a Turkish bath establishment, where for five or six hours every day he was applying water in one way or another. In this occupation he gained weight and strength, and made good progress toward recovery.

CONSUMPTION AND FOUL AIR.—The air we breathe, which a great English physician calls gaseous food, may become impure to the degree of being *indigestible* to our lungs and utterly unfit for the performance of functions which are quite as important as those of our solid and fluid victuals. Dull headaches, nausea, loss of appetite and of the sense of smell, and the sadness produced by the unsatisfied hunger after oxygen, are only incidental and secondary evils; the great principal curse of the troglodyte-habit is its influence on the respiratory organs. In 1853, when Hanover and other parts of Northern Germany were visited by a very malignant kind of small-pox, the great anatomist Langenbeck tried to discover "the peculiarity of organic structure which disposes one man to catch the disease while his neighbor escapes. . . . . I have cut up more human bodies than the Old Man of the Mountain with all his accomplices," he writes from Göttingen in his semi-annual report, "and, speaking only of my primary object, I must confess that I am no wiser than before. But, though the mystery of small-pox has eluded my search, my labors have not been in vain; they have revealed to me something else—the origin of consumption. I am sure now of what I suspected long ago, viz., that pulmonary diseases have very little to do with intemperance or with erotic excesses, and much less with cold weather, but are nearly exclusively (if we except tuberculous tendencies inherited from *both* parents, I say *quite* exclusively) produced by the breathing of foul air. The lungs of all persons, minors included, who had worked for some years in close workshops and dusty factories, showed the germs of the fatal disease, while confirmed inebriates, who had passed their days in open air, had preserved their respiratory organs intact, whatever inroads their excesses had made on the rest of their system. If I should go into practice and undertake the cure of a consumptive, I should begin by driving him out into the *Deister* (a densely-wooded mountain-range of Hanover), and prevent him from entering a house for a year or two."—*Popular Science Monthly.*

TOBACCO AND CANCEROUS TUMORS.—An Albany surgeon recently removed a cancer from a smoker's mouth to save his life. The operation is one of great difficulty, and the danger of death from hemorrhage is very great. The lower lip was divided to a point below the chin, the flaps turned back sufficiently to expose the lower jaw, which was then sawed through at the chin; and after the tongue had been amputated, holes were drilled through the jaw-bone and it was wired together and the divided lip replaced. The influence of the tobacco poison is direct and dangerous in developing this fearful disease; and did the public know the number of operations performed in private hospital practice for the relief of men who have suffered from it, there would be less tobacco smoking and chewing.

RECORD OF SCIENTIFIC DISCOVERY.

A New Method for Preserving Iron.—A method has been introduced by Prof. Barff, of London, which will probably indicate a high value to those engaged in the manufacture of iron implements for household and agricultural purposes. He covers the surface with a layer of the magnetic oxide of iron by exposing the metal to the action of intensely superheated steam. The black film of magnetic oxide adheres with more firmness even than the particles of the metal adhere to each other and will resist a file. Iron thus protected has been exposed for a long time to the action of moisture and corrosive acids without change, and it is practically unoxidizable by any agent. The process is cheap and can be conducted to any desired extent.

By this invention, the use of iron for many applications must be greatly increased. It does away with the enamelled iron culinary utensils, so liable to be poisonous, and also "tin-ware," so called. Iron plates protected by the magnetic oxide will be used for a large number of purposes where the more costly copper is now used. Perhaps more important than all, the discovery will break up the use of "galvanized iron" water-pipes, by which so many individuals and families have been poisoned. It gives us a cheap, safe, water conduit pipe, which has long been needed and sought for. If no practical difficulties arise in the manufacture—and none are anticipated—it can not be long before the great benefits of this discovery will be realized by every community in the civilized world.

The Jersey City and New York Tunnel.—The entrance on the New York side will be in the neighborhood of Washington square. From Jersey City the grade will descend two feet in every 100 feet, until a point 2,700 feet from the New York side is reached, when it will begin to ascend at the rate of one foot in every 100 feet. The tunnel will be two miles in length, with a road-bed twenty-three feet wide, and two separate tracks. Through its entire length it will be lighted with gas. The wall will be constructed of brick, with a thickness of four feet. At no point will the top of the tunnel be less than thirty-five feet below the surface of the water, and in many places it will be seventy feet below. 120 laborers will be engaged in the construction of the tunnel. The work will go on during the whole of the twenty-four hours, the force working in three relays of eight hours each. Although the tunnel will be used for the conveyance of passengers, its main object will be the transportation of freight to and from the great railroad lines which terminate in Jersey City.

Concussion as a Check in Disease Germs.—In the late Convention of American Scientists, Mrs. H. K. Ingram, of Edgefield, Tenn., read a paper on "Atmospheric Concussion as a Means of Disinfection." It was philosophical in tone, and of more than average merit and suggestiveness. It began by reference to the germ theory of diseases, and the evidence that many of the most dreaded pestilences were transmitted by living organisms. The probability that these germs float in the air and are thus communicated, being breathed into the lungs, was shown by various citations of authorities upon the spread of cholera. It was mentioned that the workers in copper, brass, and bronze in Paris and other cities, almost entirely escaped the attacks of the disease. Dr Burg has argued that the metallic emanations from that employment destroy the cholera germs. Mrs. Ingram's proposal is to kill the germs by a concussion of the air. She states that, for instance, all the mosquitoes in a room can be killed by exploding in the center of the room, a small quantity of gunpowder on a shovel. Fish can be similarly killed in the water. The worst outbreaks of cholera occur in the stillest hours of the night; possibly the concussions of the air during the busier hours may prevent the germs from spreading, in fact may kill them. Some experiments which Mrs. Ingram has made lead her to believe that gunpowder explosions might be used to kill the vine-pest, the phylloxera, as well as the microscopic insects or germs that propagate zymotic diseases.

A Horological Curiosity.—The Swiss certainly lead the world in the fabrication of curious and complicated clocks and watches. The Geneva *Continent* describes a clock recently made by Messrs. Golay-Leresche & Sons, and now on exhibition in Geneva, which, besides the usual dials, has others for the days of the month and of the week, with barometer and thermometer indicators. "The case is surmounted with a beautifully carved group in frosted silver. Nor is it a silent group. When a spring is touched there emerges from the hollow trunk of a tree a little bird of exquisite plumage that whistles the first bars of a lively measure. A shepherd, seated on a rock, continues the tune with his pipe; the little bird answers, and the concert continues until each has whistled and piped three times. Whilst this is going on, a cat comes from a corner and creeps softly toward the bird and bounds on his prey. At this moment both disappear and the music stops. The attitudes of all are thoroughly natural. The fingers of the shepherd move to the tune; when playing to the bird, his head turns in that direction, the latter flutters its wings and opens its mouth in the most correct way imaginable, and the way puss darts on her prey is true to life."

A City Under a Lake.—An engineering problem, as interesting as the laying open of Pompeii, is involved in a strange discovery which is reported from the Lake

of Geneva. A tourist having lost his trunk, two divers were employed to search for it. While they were below water they found what they supposed to be a village, since covered by the lake. Their statements led to the investigation of the spot by the municipal authorities, who took measures to ascertain the truth of the extraordinary account of the divers. On covering the placid surface with oil, these latter were able to distinguish the plan of a town, streets, squares, and detached houses marking the bed of the lake. The ruddy hue which characterized them led the observers to suppose that the buildings had been covered with the famous vermillion cement which was used by the Celts, Cimbri, and the early Gauls. There are about 200 houses arranged over an oblong surface, near the middle of which is a space more open, supposed to have been used for public assemblages. At the eastern extremity lies a large square tower, which was taken for a rock. A superficial investigation seems to indicate that the construction of these buildings dates from some centuries before our era. The Council of Vaud has decided to have the site of the dwellings inclosed by a jetty stretching from the land, and to drain off the water, so as to bring to light what promises to be one of the most interesting archæological discoveries of the present time.

Use of the Telephone.—During a recent visit to Cleveland, says the *American Manufacturer*, we found the telephone in use in a number of offices, and conversation being carried on between them and their manufactories at distances varying from one to seven miles, this, too, in an ordinary voice, with no particular effort except for distinct pronunciation. The Cleveland Paper Company has fairly domesticated this new discovery in their offices in connection with their different mills It is also in use by the Standard Oil Company, Union Iron Works, Cleveland Transfer Company, Cleveland Iron Company, Leader Printing Company, Rhodes & Co., and other firms, while orders are being filled as fast as it is found convenient to do the work.

Test for Flour Adulterations.—From the London *Corn Trade Journal* we learn that Dr. Himly, professor of chemistry at the University of Kiel, has suggested a method by means of which any person of ordinary intelligence may test the amount of adulteration of flour. It is based upon the fact that chloroform is specifically lighter than nearly all the substances usually employed for these adulterations, such as lime, chalk barytes, plaster, marble, bone-powder, etc., while the genuine flour is again lighter than chloroform, in which none of the above-named substances are soluble. The testing process is simple, and all the apparatus required is a small test tube about three-eighths of an inch in diameter and four or five inches long. A teaspoonful of the flour to be tested is placed in the test glass and chloroform poured on to fill the vessel to about three-quarters of its length, when it is well shaken, and then placed in an upright position, so as to remain undisturbed until the various substances mixed together have had time to find the level assigned them by their specific gravity, the flour swimming near the surface at the top of the vessel, while the mineral bodies will sink to the bottom. It should be observed that unadulterated flour often shows a slight filmy deposit of a grayish or brownish color, which it must be supposed is stone-dust produced in grinding. A white deposit, however, will invariably indicate an adulteration with one or another of the substances mentioned above. If the materials are weighed before and after separation, the amount or degree of adulteration may be pretty accurately ascertained.

No Bones in the Ocean.—Mr. Jeffrey has established the fact that bones disappear in the ocean. By dredging, it is common to bring up teeth, but rarely ever a bone of any kind; these, however compact, dissolve if exposed to the action of the water but a little time. On the contrary, teeth—which are not bones any more than whales are fish—resist the destroying action of sea-water indefinitely. It is, therefore, a powerful solvent. Still, the popular opinion is that it is a brine. If such were the case, the bottom of all seas would, long ago, have been shallowed by immense accumulations of carcasses and products of the vegetable kingdom constantly floating into them. Dentine, the peculiar material of which teeth are formed, and the enamel covering them, offer extraordinary resistance to these chemical agencies, which resolve other animal remains into nothingness. Mounds in the West, tumuli in Europe and Asia, which are believed to antedate sacred history for thousands of years, yield up perfectly sound teeth, on which time appears to have made no impression whatever.

Renovating Black Silk.—Do not iron black silk. Peel two potatoes, slice them thin, pour one pint of boiling water on them, and let them stand four hours. When ready for immediate use, put about a quarter of a teacupful of alcohol into the liquor. Sponge the silk well on the worn side, rubbing any shiny spots with care; and then roll it tightly around a thick pole. This renews its freshness, and cleans it well.

Writer's Cramp.—A good deal of suggestion is contained on this somewhat prevalent malady in a paper read by M. Bouilland before a meeting of the French Academy of Sciences, which gives an account of researches relative to lesions of the brain. In his former communications he demonstrated that the loss of speech was due to a malady of the third convolution of the left anterior lobe of that organ. He now goes further, and asserts that the three faculties which essentially distinguish man from other animals—speech, reading, and writing—are

each controlled by separate portions of the brain. In his researches he discovered that the paralysis of one of those functions could exist without the others being affected, and he gives as an example a case in which he was called to a consultation on a young man whose avocation compelled him to write continually. At first the patient had felt a slight weakness in writing, then a great difficulty; and finally, an absolute loss of the faculty. The result of the closest examination could not detect any defect in the muscles of the arm or hand, the latter retaining all its sensitiveness and power for every other purpose than that of writing, and all his other functions being normal and in good condition. The conclusion arrived at was that the source of the infirmity must not be sought for in the external organs, but in the center itself of nervous action—the brain. The young man was advised to learn to write with the left hand, which he rapidly succeeded in doing. The defect from which he suffered had long been known as writer's cramp, just as the loss of speech was for centuries termed paralysis of the tongue. Both designations were equally erroneous, both being now attributed to maladies of certain portions of the brain.

The Moons of Mars.—How Prof. Hall, during his telescopic studies, discovered the Martian Satellites, was told by Prof. Newcombe at the American Scientists' Convention during its recent sitting at Nashville.

"Prof. Hall, on the 11th of August last, in looking at Mars, noticed quite near it a small star. He measured its distance from the planet, and found it only a few seconds. He supposed at first it was a fixed star, thousands of millions of miles farther than Mars in the same direction. Then those great enemies of the astronomer, the clouds came up before he had time to decide. He did not get another view of Mars for five days, and during these five days the planet had moved several degrees. There was no way of telling whether the star was still there or not. It was lost. But in looking again he saw a new star; he measured that, and was enabled on the second evening—which, I think, was on the 16th of August—to observe it an hour or so. He then found that the star followed Mars. But he hardly credited that. There must be some mistake in his observations. There was no way of telling whether it was a satellite or an asteroid. He measured it at certain distances, and knew that moreover on the following morning it would be again at the outside of Mars. He would, therefore, look at Mars the following morning to see if it had not gotten around there. In the first part of the evening it was not to be seen, but at 4 o'clock in the morning it came out, and then there was no doubt whatever. The night following this one it was followed by another much closer to the planet, and a little brighter (therefore it must be a second satellite), and on the morning of the 20th of August, we were enabled to telegraph to Europe what I think we may fairly regard as the greatest discovery which the telescope has given to astronomy. Now these satellites are remarkable for not simply belonging to the planet nearest the earth, but also remarkable for their small size and rapid motion. The inner satellite of Mars goes around the planet in less than eight hours, while Mars himself revolves in twenty-four hours. The consequence of this is that this satellite rises in the west and sets in the east; that is, the motion of the satellite around the planet toward the east is more rapid than the planet itself, and thus is an exception to any other of the heavenly bodies."

AGRICULTURAL HINTS.

[The mind is the man. Farming, in the highest sense, is not simply doing the hard work necessary. This can be done by muscle when directed by brains. The true farmer is he who can plan, direct, and control skillfully.]

The Best Seed for Planting.—While you are harvesting, save your best seed. Select carefully and breed to a standard type. The *Prairie Farmer* says on this point: "A farmer, well known for his care in the selection of his seed, made it a practice to set apart each year a certain portion of his fields for the raising of seed. Upon these seed plats none but the most select seed was used, and of a given quality. The best cultivation was given, without regard to cost, and the product of these seed plats was used for the general crops; the top or extra grain being carefully sorted each year, to be again sown for future seed. Thus he always had none but the best and most mature seed for sowing, and always obtained an extra price from others for seed from his fields. But his own selected seed, for these plats, could not be bought at any price."

Peas as Decorative Plants.—The *Revue Horticole* states that the common white Canada peas are being used with good effect as winter decorative plants. They are certainly among the last things we should think of growing for ornament, but the French learn how to utilize everything, and from their account, this plant is not to be despised. The following, which is their method of raising them, is certainly simple enough for any one to undertake.

Plant several peas in a pot filled with ordinary earth and sand. Water them well and place the pot in a dark cupboard, cellar, or any dark place where the temperature is

mild and even. The seed will come up quickly, and under the influence of the darkness, moisture, and heat, they will soon spread themselves and produce an abundance of light leaves. When the plants are high they may be brought into the light, and placed wherever wished. Their white tufts have a charming effect among other plants. If well watered they will remain ornamental for six weeks or more, but as soon as they become green and coarse, they should be thrown away. Nothing is easier, however, than to keep up the succession of these plants, a handful of peas furnishing vines enough for the entire winter.

Dosing Vermin. — "Several correspondents write to announce the complete extirpation of rats and mice from their cow-stalls and piggeries since the adoption of this simple plan: A mixture of two parts of well-bruised common squills and three parts of finely-chopped bacon is made into a stiff mass, with as much meal as may be required, and then baked into small cakes, which are put down for the rats to eat."—*English Standard.*

We've no doubt of it; rats and mice don't like medicine; they don't find it healthful any more than most humans do.

American Fruit in Europe.—Europe is now taking a surprising quantity of American fruit. The purchases have amounted, according to the New York *Tribune*, to over $2,500,000 worth since June, 1876, compared with $600,000 in the same period the year before. Dried apples figure largely in this movement. This country has exported over 12,000,000 lbs. of them since last June, as compared with 522,000 lbs. the previous year. This new addition to the trade of the United States is due to invention, which has occupied itself of late with improved methods for drying and preserving for transporting fruit. The greatest progress has been made in the way of dryers. Within a year some notable inventions in this line have been perfected which are a great acquisition to the resources of the country. The fruit dryer bids fair hereafter to be as much of a necessity to every farming community as the cider mill and the cheese factory.

A Great Yield. — A field at Walla Walla, Oregon, gives 3,000 bushels of clean wheat from fifty acres. In some cases the yield goes up to eighty bushels to the acre.

Greenhouse and Window Plants.—Plants set out of doors for the summer are apt to suffer from neglect. It would conduce greatly to their health to prepare a place for them, a mere frame of boards as wide as the height of the pots; put down a layer of coal ashes on which to set the plants, and then, having put in the pots to allow each plant sufficient room, fill in between them with coal ashes. This will not only prevent drying out so rapidly, but avoid injury to the roots by the sun falling directly upon the pots—an unsuspected cause of much damage. This plan will prevent the plants from being thrown over by the winds, otherwise some other means must be devised. Most greenhouse plants need shade in the hottest part of the day, and should be so placed as to secure this. Several insects that are not known in the greenhouse, may visit the plants when set out, and vigilance is required. Fuchsias should never be turned out into the open ground, unless in a much sheltered place; the hot suns and winds soon destroy their beauty; if taken out of the house at all, the veranda is the best place for them, and if they can be set where the flowers can be seen from below, they will be all the more effective. Keep the weeds from growing in the flower pots.

Strength of Vegetables.—A short time since the asphalt flooring of a skating rink in London appeared to be "blistered" in several places, and it was found that this was caused by the forcing up through seven inches of concrete of some asparagus plants, the roots of which had been left in the ground, which had been part of a garden.

The Flesh of Fruits.—It is generally supposed that the flesh of the fruit provides the first food for the germinating plants of its seeds. Such, however, remarks the *Journal of Chemistry*, is not the case, for here, as in other cases, the first nourishment is drawn from the seed alone. The flesh of the fruit bears no relation to the embryo; it is a kind of outcast substance or excretion of the plant. In most of our cultivated fruit trees, too, the great mass of this flesh is the result of cultivation. Thus, wild cherries possess so little flesh that they do not repay the trouble of plucking. In the mountains of Pontus grapes are found so small that they are not worth eating; and the wild apricot, and often, likewise, the wild peach, possess no flesh at all, the former, indeed, being like a leathery two-valved capsule. The flesh of the fruit of most of our cultivated fruit trees is analogous to the enlarged roots of the turnip and beet, and similar plants, and is simply the product of cultivation. which is much sooner lost again under neglected circumstances than it was originally artificially produced. One of the most able French botanists, Professor Lecoq, of Clermont Ferrand, instituted numerous experiments with various wild plants to induce them to form fleshy roots, and he was almost invariably successful. Just as it is the task of the agriculturist to increase the volume of his roots, so it should be the aim of the fruit gardener to increase the flesh of the pome, stone, berry fruits, and the substances stored up in the cotyledons of nut fruit.

Saving Farm Implements. — A correspondent of the *Ohio Farmer* says: "The manufacturers of farm implements and machines secretly rejoice to see the carelessness and neglect received by the machinery on the farm, for the greater the neglect the

larger sales will they have, for it is a well-known fact that it is not so much to wear and work, but far more to neglect, that can be traced the early uselessness of much of the improved farm machinery now used. Take, for example, the mowers and reapers. If a farmer would carefully aggregate the number of acres cut by the machine during its period of usefulness, before it had to be laid by to give place to a new one, it would cause surprise to find how few acres it had really cut. The mere wear caused by cutting that number of acres did not render it useless, but the neglect it received in the times intervening between the different harvests. But a small percentage of our mowers and reapers ever receive the care they should. Some are rendered useless by careless driving, and by not keeping the parts well oiled and screwed firmly to their places; but by far the greater majority are not attended to properly after the harvesting is over. Some are put away carefully under some convenient tree, there to remain for a year, while others are seen under a shed, with the dirt and gum all still on the different parts, and forgotten till again required for use. Is it any wonder that the manufacturers have to turn out so many machines annually to supply the demand and that the business is so brisk and profitable?



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SENTIMENT IN EXCESS.

THE case of Mr. Gilman, which was the theme of earnest consideration in the best society of New York and Brooklyn last autumn, is a striking illustration of the tendencies and temptations of the life of men generally deemed fortunate and favored. Surrounded with wealthy friends, conspicuously related to a prominent church, and having a business position which is within the attainment of few, this man yielded to what might be termed the pressure of circumstances, and appropriated to his own use the money of others and forged commercial paper to large amoun s. His Conscientiousness was not deficient as a monitor, for when his criminal doings could no longer be hidden, he went into the hall of justice, and refusing to make a defense, proffered a written confession, in the course of which occurs this passage:

"To sum up briefly, I would say that a decline in business, bad investments, heavy expenses both business and domestic, and personal extravagance have betrayed me. No; I must be just to myself, and confess that I have deliberately walked in the clearest light and knowledge, in the face of the best instructions, into this pit. Some may call it madness; I call it sin."

He was regarded as a man of clear and sound views in business questions, a good adviser and an earnest friend. Hence he was entrusted with large amounts of money, and had under his control at times the entire property of others. He perceived clearly the line of duty, but evidently his Approbativeness, Benevolence, and Social Sentiments were too strong for his Conscientiousness and so overrode its restraints.

It was his kind, indulgent temper which attracted people to him, and at the same time constituted one of his leading weaknesses.

He says on this point himself, that his friends "know that I love better to give away money than to spend it for myself; they know that my thoughts and my interests were more with various charitable works with which it was my happiness to

be connected, than on money-getting by right or by wrong. They will mourn with me that I should have valued the good opinion of good men more than a good conscience and my own self-respect."

He goes on: "They will wonder how it was possible for a man to so far deceive himself as to believe that he really cared for and valued things that were true, honest, pure, just, lovely and of good report, while beneath the smooth surface his heart was rotten and dishonest to the core."

In this respect, poor Gilman did not deceive himself; he was organized to care for and value the pure, just, and lovely; but he lacked the self-culture, the self-knowledge necessary to appreciate and use properly the faculties whose functions relate to the esthetical and humanitarian. A similar but more striking instance is that of the late Henry Meiggs.

Too many sad lapses from virtue and integrity are occurring; too many betrayals of trust. Were they analyzed, it would appear, in nearly every instance, that there was a lack of self-control, and that lack proceeded from self-ignorance. Had Mr. Gilman fully understood his weakness, and taken counsel years ago for their regulation or compensation, we would not have witnessed his distressing fall.

This course was his duty; and it is the duty of every man and woman to study themselves and endeavor to correct irregularities and inharmonies; to suppress tendencies to vice and impropriety. One may possess in good measure qualities relating to what is called man's higher nature, and be weak in moral integrity because of their very influence. The "selfish" faculties are just as useful as the "sentimental," and both require education for their proper manifestation in the character. It is the harmonious inter-operation of these which produce a fine mental balance and a correct life.

WHY THEY DIE EARLY.

GRAHAM, SHEW, AND TRALL.

NOW that Dr. Trall, the eminent Hygienic teacher, has departed at the age of sixty-five, people ask with astonishment why hygienic teachers who live, as it is claimed, according to a better method than is commonly followed by society at large, should not live to a ripe old age. We are not surprised by the question, yet feel sure that if the tenor of their lives in other respects were known, the question would not be asked. When it is understood that Sylvester Graham, Dr. Shew, and Dr. Trall entered upon the investigation of hygienic law and living solely on account of personal ill-health and broken-down constitutions, and by a better mode of living and treatment were arrested in their descent toward the grave, had their constitutions thereby measurably rejuvenated, and were able to prolong their lives many years, it will no longer be a subject for remark that they did not become octogenarians. It should also be taken into account that they were great workers, and each was obliged to stem a current of opposition and public opprobrium; that, indeed, their life was a battle, a struggle, and they were literally worn out.

Sylvester Graham, in early life, was afflicted with dyspepsia and melancholia, and resorted to a simple mode of diet as a last chance, and by its means his health was built up and he became able to lecture before the public, and to write extendedly on the subject of health. He has made for himself a noble monument in his work, "The Science of Human Life," every page of which gleams with intellectual vigor.

Dr. Shew was a photographic artist, or,

rather, a daguerreotypist, and ignorantly and carelessly lived in the fumes of mercury and iodine until his liver became almost disorganized. Learning of the wonderful revolution in the treatment of disease brought about by the renowned Priessnitz, he examined his methods and thus became acquainted with the hydropathic system, and so far recovered his health as to be able to study the healing art, and established in New York and its vicinity health institutions which he personally conducted for a number of years, besides writing several excellent books, the best known of which is "The Family Physician." The overwork which his professional relations induced, combined with his previously injured constitution, broke him down.

Dr. Trall inherited a poor constitution. He was subjected to the old-fashioned heroic drug-treatment until his system was considered hopelessly out of order. He entered the medical profession, studied its methods thoroughly, and became convinced that hygienic living and hydropathic treatment were better than the old system of practice, and for more than thirty years he labored as not one man in ten could labor and live, lecturing to college students, conducting or supervising large health institutions, and writing almost incessantly. Persons who are acquainted with the thirty or forty books which he has written are aware that every page is full of strong, practical thought; that his earnest and intense mental character has thus been crystallized for the benefit of mankind. Dr. Trall's death at sixty-five, then, may be properly set down to the account of early derangement of the constitution, a long career of excessively hard work, and, we may properly add, that too common error of intellectual workers, personal carelessness of self. When his students used to chide him for lecturing and attending to professional business all day and writing two-thirds of the night, his reply was: "Follow my teachings, but not my practice."

He had a wonderful will-power, and felt that he was master of himself and of his surroundings; that he could do anything which ought to be done, or which he wanted to do; and like most physicians, he was far better qualified to judge of other people's difficulties and tell them how to live than he was to treat himself when ill, proving that the physician should generally trust to the medical skill of others in estimating his condition and treating it when ill, and not always attempt to do it himself.

If the world will show us three men who have done as much brain-work as Graham, Shew, and Trall, and fought so fiercely the battle of reform against the current prejudices of the world as they did, beginning as each did with an impaired constitution, it will be time to commence an argument adversely to hygienic living and treatment.

Dr. James C. Jackson, who still continues to work, is another specimen of exhausted vitality and broken constitution, and who was driven to the hydropathic and hygienic systems through ill health. He has thus reorganized his physical functions; and he has thus far been able to nurse himself and recuperate, when ill effects of his former condition are manifested, whereas under ordinary treatment he would have gone to the wall long ago. Like Dr. Trall, he has lived his three-score and five years, but if he does not live to be ninety we suppose the public will say, "There, another example of hygienic living." The truth is, most persons of conspicuous character who have adopted the reformatory diet have done so after becoming dyspeptics from the use of rich and highly-seasoned food, and their

demoralized constitutions have driven them to the better method to avoid the grave. Let children be properly fed and hygienically treated as they are growing up, and then if they continue the right methods of diet and regimen, we may expect octogenarians in great numbers where now there are few who reach the age of sixty.

BEST SCHOOLS.

FOUR or five years ago we had occasion to visit most of the towns and thriving little settlements lying within twenty-five miles of New York, for the purpose of examining briefly their topographical, sanitary, and educational advantages. In the course of the round, we were surprised by the frequent repetition of the statement, "We have the best public school in the State," and a large and expensive building was usually pointed at as a witness for the assertion. It is gratifying, indeed, to one who understands the relation of the school to the intellectual and moral growth of the community, to learn that well-equipped and well-conducted schools thickly dot the environs of a great city. Their influence is salutary in counteracting the miasms of illiteracy and immorality which emanate from the promiscuous aggregation of humanity in a metropolis, and so they help much to raise the general mental tone of the whole region.

During the past two years or more we have been so related, that the practical working of some of these "best" schools has been more or less under our notice, and it has not realized the expectations which were raised at their first introduction. We have seen that ambition to show a much-diversified curriculum, to have high departments of study, and public "examinations" and "commencements," largely controls the measures of the trustees. We have seen, also, that thoroughness in a few branches of study is less esteemed than skimming a large number. For instance, a child ten years of age would be required to procure in the outset of a term, seven, eight, perhaps even nine text-books on as many different subjects, and be assigned lessons in them for every day. The impossibility of thoroughness under such a system, to say nothing of the mental damage wrought, is evident.

They are evidently pursuing a similar policy in Pennsylvania, as Mr. Wickersham, the Superintendent of Schools for that State, said at a meeting in Louisville, Ky.:

"I have seen large classes come out of our High School, and go back home without a qualification for anything. Our people are partly right in saying that the common schools are not doing what they should for the common people."

What would we have? First, teachers who are competent to teach, both by organization and thorough familiarity with the subject-matter of their teaching. Second, few text-books, and few lessons to be learned at home. We would not require a child of ten or under to learn more than one lesson at home, and we would not have him or her study more than three subjects at one time. Third, a complete understanding and mastery of each lesson by pupils, as a condition of advancement.

Many of the teachers, particularly of children, exhibit a restless desire to introduce esthetic and scientific branches of study, notwithstanding the obvious fact that they can not do so without neglecting the plain and substantial departments. The course involving the three "R's" and plain geography and elementary history is hurried through, that technical studies may be entered upon. And much credit is affected by her who says that she teaches botany,

chemistry, mineralogy, Latin, etc. We believe in imparting a knowledge of natural science to children, and the good teacher can do so by occasional lessons, which may furnish a pleasant and instructive diversion to her classes; but how injudicious it is to neglect the subjects essential to a good knowledge of the affairs of every-day life, and to a successful business career. An educational organ recently published this item:

"At an examination of 150 applicants for schools, embracing high-school, college, and university graduates, from all parts of the country, many failed to get even the lowest grade certificate. They failed in one or more of the common studies—arithmetic, grammar, geography, reading, and spelling."

Will the trustees and teachers of our "best schools" consider this?

JUST A LITTLE PREJUDICED.

AN exchange informs us that "Dr. Hollis, in an article on mental physics," says:

"It is preposterous to expect that similar cells are reserved for similar functions in all human brains, knowing what we do of the great diversity in man's mental nature, his various occupations, proclivities, and talents. Beyond the fact that there exists in our brains a posterior or retentive system, and an anterior or expressive system, our knowledge of this organ will not at present permit us to go."

Our readings in anatomy have led us to believe that organisms in the same class are similar in function. Prof. Ferrier affirms, as the result of his experiments, that the same convolution in the brains of different monkeys responded under excitation with a like muscular movement. So, too, it proved in his examination of the brains of different dogs, or rabbits or other animals. Anatomists know that the motory and sensory nerves in man do not exchange function, so that the cells which make up their tissue severally must be "reserved" for the motory or sensory property in particular. So, too, we know that the nerves of special sensation, be they instrumental in hearing, or seeing, or smelling, or tasting, or touching, have their several relations to these processes of mental apprehension. The diversity, therefore, of physical sensation is due to special nervous function. Nature is ever harmonious and consistent in her ordering of life and development; and the logical sequence of the diversity of nervous function in our sensational apprehensions is a diversity of nervous function to subserve "the great diversity in man's mental nature."

Look back a page or two, dear reader, or recall what is reported of the eminent anatomist, M. Bouilland, on "Writer's Cramp," as a further confirmation with regard to special nervous centers.

But the writer first quoted makes an acknowledgment of a division of faculties in the second member of the paragraph, which is sufficient in its warrant for the validity of the idea upon which the system of phrenology is founded. Dr. Hollis' caution in his statement is evidently due, in great measure, to his knowledge of cerebral physiology, which we infer, like that of most metaphysicians of the old school, is not extensive.

UNBELIEF vs. BELIEF.

IN a notice of a book recently published by S. R. WELLS & Co., the literary man of the *Christian Weekly* thus declares himself:

"We have no faith in Phrenology. This book is based on Phrenology. Therefore

we have no faith in this book. We believe, nevertheless, that in family government, and in school training as far as possible, individual temperament and peculiarities ought to be studied. So far we agree with the book."

The reader will perceive that in one breath a denial and an acceptance of Phrenological principles are asserted. Phrenology, as we understand it, is but the study of individual temperament and peculiarities. Our literary friend, like most intelligent people of the day, has the good sense to appreciate the utility of principles and methods which the teachers of Phrenology for the past forty years have been inculcating, and which have been largely absorbed by the thought of the day. We hear eminent divines asserting phrenological truths from the pulpit; we see physicians applying them at the bedside; we see teachers employing them in their class-rooms. Men of the noblest and purest stamp declare to us that what they possess of health, fortune, and happiness, they owe to phrenological teaching.

Perhaps our friend would call the enlightening and life-giving truths set forth by Gall, Spurzheim, Broussais, Combe, Macintosh, Bell, Caldwell, Mann, and the rest by some other name, just as *savants* in Germany and France are disposed to do. Perhaps we would gain many more avowed friends if we should speak of mento-psychology, or mento-physiology, or menology, or, as they say in Germany, psycho-physiology, and relegate "Phrenology" to that limbo in which the scientists awhile ago immured "Astrology" by substituting the less expressive "Astronomy."

Our Mentorial Bureau.

[In this Department will be noticed such matters as are of interest to correspondents and to the general reader. Contributions for "What They Say" should be brief, pointed, and creamy, to secure publication.]

To Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY *will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.*

IF AN INQUIRY FAIL TO RECEIVE ATTENTION *within two months, the correspondent should repeat it; if not then published, the inquirer may conclude that an answer is withheld, for good reasons, by the editor.*

WE CANNOT UNDERTAKE TO RETURN UNAVAILABLE *contributions unless the necessary postage is provided by the writers. In all cases, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage—stamps being preferred. Anonymous letters will not be considered.*

ORGANIZATION OR EDUCATION.—G. A. —Organization, of course, has a primary influence upon one's thoughts and actions, and therefore it may be inferred that its influence is stronger than the impressions of education; the effect of education is that of a modification or change in some respects of tendencies of the organic endowment; not changing the original impulses, but giving them a different tone or form of activity. A man with large Destructiveness, a strong passionate element, grown up without training, intellectual or moral, will show what we term low habits and a spirit opposed to moral propriety and social utility. But such a man, when early placed under the influences of good training and culture, with refined associations, would be likely to become an earnest, thoroughgoing worker, in orderly directions, and be a very powerful element in working out principles of social utility and progress.

HUNTING FACULTIES.—G. C. L.—One who is fond of hunting, has an active temperament, rather strong perceptive faculties, a head rather broad in the region of Destructiveness, with a comparatively large back-head, and is muscular in correspondence with his basilar brain development.

PALLOR OF FACE. — *Question:* I am pretty strong, lifting five hundred and seventy-five pounds with the "health-lift," tolerably heavy for my height; in short, as strong and as heavy as most of my associates. Yet I often hear it said of me, "He looks as if he had not a drop of blood in his face." Oblige by stating what causes this pallor.

Answer: It may be constitutional with you; in other words, you may have inherited a compact muscular organization, yet with it some derangement of an internal organ, like the liver or the kidneys. Take a sponge or towel bath in the morning, accompanying it with a brisk hand rubbing; these will improve your circulation, and will have a tendency to give your skin a more sanguinary expression. We would not advise you to "lift" too much, as you may injure yourself by a strain.

SOMEWHAT PERSONAL. — Our friend "D.," of Albany, has favored us with another long and sprightly communication, which is at once critical, laudatory, exceptional, and condemnatory. "D." thinks we do not set enough store by "evolution." He has evidently swallowed the whole hypothesis, even outdone Darwin, Huxley, Tyndal, Spencer, and the rest who, according to their own statements, don't see as much potency in a bit of matter as "D." does. Besides, "D's." organs of "Credibility and Respect" are great, if his vigor of assertion may be taken as evidence of conviction. He has gobbled with affectionate unction the extravagant notions of "theosophists" and anti-religionists with regard to the derivation of Christianity, evidently ignoring what Oriental scholars like Max Müller and Professor Robertson Smith have wri'ten. He mixes up Buddhistic and scientific ideas with respect to the formation of the earth and its ultimate state in a style that is refreshing. Certainly his logic abounds in nebulæ. But we can excuse a great deal of "D.'s" extravagance of view on account of his earnestness in advocating the facts and philosophy of Phrenology, as well as on account of his omnivorous reading, the latter, we fear, having produced a sort of mental muddlement. We've no objection to "D's." letting himself out to us occasionally, as the spice in his writing has an agreeable mental stimulus for us.

SOMNILOQUENCE. — E. D. W. — This may be occasioned by stomach derangement. In fact, we think that most cases of talking in one's sleep are so occasioned. People who eat heavy meals at night are disturbed in their sleep by dreams and nervous excitement; very often children will talk in their sleep; so, too, people who are affected by emotional excitement, or have worked excessively, are inclined to be wakeful and loquacious at night. Most instances of somniloquence are produced by abnormal physiological conditions.

CAUCASIAN RACE.—Most of the geographies used as text-books in the schools contain brief descriptions of the races of the earth. "Caucasian" is the term applied generically to the white races. The Anglo-Saxon is one of the races belonging to the Caucasian division. Some authorities claim that the white race found its origin in Asia-Minor, or in the neighborhood of the Caucasus Mountains. The "Garden of Eden" is thought by some to have been located in Asia-Minor. Authorities now differ much with regard to the origin of man; some asserting that all nations, tribes, and tongues proceeded from one family, others asserting that the three, four, and five, or more grand divisions into which they distribute mankind, proceeded from as many distinct and original families or pairs.

DIPHTHERIA. — T. E. — An attack of diphtheria is usually preceded by those symptoms which are generally attributed to a severe cold, such as chilliness, languor, mental depression, cold sweat, general discomfort. The diphtheritic attack, *per se*, comes on a day or two after the "cold" has been contracted and evinces itself by swelling of the glands and membranes of the throat, and the deposit or growth of morbid matter called false membrane. Unless this deposit be arrested, suffocation is the result. Methods of cure differ; the simplest being, of course, hygienic, which includes a warm bath, a wet-sheet pack, cold applications to the throat, outside; gargling the throat with cold water, swallowing small bits of pounded ice, swabbing out the throat, and where the deposit of false membrane has become extensive, the application of caustic for its removal. In the outset of an attack of diphtheria, one should not eat, for the disease is largely due to a disturbance of the stomach and of the excretory system. Abstinence will afford the system an opportunity to regulate itself.

STUDY OF THE CLASSICS.—J. H. L.—The perceptive organs, Causality, Constructiveness, Ideality, are among the parts of the brain which are exercised by the study of the classic tongues. When you read the Greek and Latin poets, Destructiveness, Combativeness, and Amativeness, Friendship, and other organs will come in for their share of attention, according to the subject matter.

STRASBOURG CLOCK.—Into the composition of this wonderful clock, brass and iron chiefly enter. We are not able to give you the exact height, but would infer from sketches which we have seen, that the case stands upward of thirty feet. Dasypodius, a skillful clock-maker, has the honor of producing this

remarkable mechanism. Among its performances are, showing the course of the stars from day to day; indicating the date, both according to secular and ecclesiastical reckoning; showing the phases of the moon, from the beginning to the end of the lunar month; indicating the mean time. Besides these, a figure of an angel strikes the hour, and another figure turns over a sun-glass to mark its expiration; a skeleton representing Death strikes the hour of noon. As the quarter hours pass between 11 and 12, symbolical figures of Childhood, Youth, Manhood, and Old Age appear successively and pass around Death. A figure of the Saviour stands in a prominent niche, and at noon carvings of the Twelve Apostles advance singly and move around Him, and just as the last of the twelve appears, a cock, perched on one of the towers, advances, claps his wings and crows. Each day of the week has a mythological representative, which comes out at the beginning of the day and returns at its close.

What They Say.

GOLDEN FRIENDSHIPS.—"Friendship is a golden chain," says the poet, "that unites kindred hearts through links of mutual sympathy." What the poet says, everybody says, if he is a right popular poet; so we have friendship going the rounds of the sentimental world by the name of "a golden chain." The metaphor sounds pretty, and is, unconsciously, well adapted to the idea it represents in its literal and modern signification. We sometimes catch glimpses of the long ago, when friendship had for its meaning a special and devoted interest in the tried and proven few, and a manifest Christian desire for the well-being of all. No wonder that old sentimentalists, in their silent musings on the sweet and endearing mysteries of friendship, linked its tender emotions poetically into a chain which they called "a golden chain," in comparison with the purest and most precious of metals. Brighter than the glittering ore, purer than the coin from the mint, delicately visible, yet ever felt, was this same golden chain; so delicate that the rubbish of ages seems to have crushed it out of existence; or so coarse and insensible seems human nature to have grown, that should the gentle links essay to twine themselves around the obdurate heart of the average individual to-day, the touch would fail to awaken sensation.

The cry *now* is for something tangible to conduct interest and appreciation to any foreign point, and that tangible something is the very metal, or its representative, dug from the ground under our feet—emblem of the invisible gold of long ago. This modern patent on friendship is better adapted to the comprehension of the masses than was the ancient article, in that there is nothing invisible about it. It lifts up its voice on the street, the highway, and in the sanctuary. It can be discerned in the bowing of lofty heads and clasping of jeweled hands; and it can be felt—yes, *felt* only by the brown-handed sons and daughters of toil, who are brushed past by the fashionable shop-goers on the stone pavement, or by the "brethren" and "sisters" in the aisles of the common church. We should weep to believe that the sweet spirit chain of old, affrighted by the vain glitter of its rival and successor, had flown from the earth where its sacred name is so wantonly profaned. We yet find, in high as well as in low places, an occasional friendship, as rare and sweet as ever blessed an earlier age, pure as its purest emblem, scenting the moral atmosphere like a flower rescued from the blight of Eden. But oh, how rare that flower! how scarce that gold! Yet are we happy to know that there are left a few straggling Levites who courageously refuse to bow to the golden calf; and we have hope left for the dawn of a brighter day, when this money-god will be dethroned amid the triumphant shouts that shall ascend from the invulnerable heroes who have the world's salvation in trust. The haughty monarch must flee before the tidal awakening of a universal intelligence that understands human rights and reaches forth its hand to take the luxury of mental freedom without asking any man's yea or nay. People will know each other better, and when mind meets kindred mind, the relationship will be acknowledged before the world, though it exist between a hod-carrier and a president. MINNIE MYRTLE, JR.

BASHFULNESS AND ITS CAUSES.—George Combe says, in his "Lectures," speaking of Professor Mapes' daughter, that bashfulness is an affection of Self-esteem. Although it is the acme of presumption for an amateur to controvert the opinion of so distinguished a man—one for whom we entertain the greatest possible reverence and admiration—we yet feel constrained to the belief that he was in error. The assertion is disputed substantially by able phrenological teachers and authors, among whom we can name Professor Fowler, Nelson Sizer, etc. Approbativeness is defined as a love for the good opinion of others, or the praise of others. Self-esteem loves self, and cares not a whit for another's opinion, thinking self best and most entitled to consideration. Now we can not consider it possible for such a state as the one denominated "Bashfulness" to proceed from one of confidence in self, belief in one's own capacity—in a word, Self-esteem. But it can readily pro-

ceed from Approbativeness, which desires and labors for the respect of others. In the bashful state one is humbled, abashed, shrinking, trembling, etc., and why? Not because they feel independent, high-minded, proud of self, and conscious of sufficiency of innate power, all of which is the origin of the self-esteeming faculty; but, on the contrary, because of a negative endowment of this sentiment, and a largely-developed organ of Approbativeness, joined to full or large Cautiousness—the former giving love for others' opinions, and the latter making fearful of not receiving the so-much-desired object of gratification. The man in whom Self-esteem is largely predominant, will seldom be found manifesting bashfulness, and when such an individual is found, an examination will disclose in the same person large Caution and small Combativeness. Of two men equally endowed in other respects, yet differing in Combativeness, a marked difference in the matter of presence of mind will be observed, and when you give to the one moderately endowed with Combativeness an increased amount of Cautiousness, a vast change in mental action takes place, and always more and more verging toward the bashful.

Our own observation and experience confirm us in the belief that the bashful man will, in nine cases in ten, be found with Self-esteem and Combativeness only moderate, and Approbativeness and Cautiousness large. We conceive the following combinations most favorable to bashfulness: 1st. Large Approbativeness and Cautiousness, with deficient Self-esteem and Combativeness. 2d. Large Self-esteem, Approbativeness, and reflectives, with small propensities and large Caution. Perhaps ninety-nine marked cases out of a hundred would be filled by one or the other of these combinations. In the second, though Self-esteem is strong, the large Approbative faculty, highly excited by large Caution, and enlightened as to one's nothingness by intellect, without the support of powerful Combativeness in particular, which laughs at danger and disputes the fancied evils of Cautiousness, carries the day, and a feeling of timidity and lack of confidence usurps that of strength of belief in a capacity sufficient to breast the storm at any time likely to burst upon us.

We should be glad to hear from the learned in the science, knowing that assertions from Combe are always entitled to the weightiest consideration and respect. C. M. ALEY.

[We think that on p. 175 *et seq.* of his "Lectures," Mr. Combe most clearly analyzes the function of Self-esteem and does not take ground adverse to the views of our esteemed correspondent. We presume that the statement quoted by Mr. Aley means that bashfulness is traceable to a deficiency of Self-esteem. We can also conceive of bashfulness in one who has both Veneration and Self-esteem large, with moderate Combativeness.—EDITOR.]

PHYSIOGNOMY SHOWS THE MIND WITHIN.—The writer can, in nearly every case, give a correct description of character, and often state the relative size of the organs, from no other means than the expression of the subject's countenance. This leads him to believe, if not to know, that Physiognomy is far from being a humbug. The failure of people to believe in this science is very evidently owing to their lack of Human Nature. Those who have this organ large are always judicious observers, and observation never fails to confirm Physiognomy.

It is claimed by non-believers that Physiognomy is not a true science, because, as they say, many hypocrites and rascals have almost angelic countenances; while on the other hand, many strictly moral persons have faces worthy only the most profligate and degraded. Now, it is a well-known fact that no person can be angry and at the same time avoid giving to his face an angry expression. It is impossible to exercise the organ of Mirthfulness without putting on a corresponding physiognomy. No one can exercise the organ of Firmness without compressing his upper lip, and at the same instant wearing a stern expression of countenance. Indeed, it is a well-substantiated fact that every organ of the mind has its corresponding "pole" in the face, and no one organ or combination of organs can be brought into action without showing a corresponding physiognomy. To nicely discriminate and correctly judge as to a person's character, from the expression and shape of the face, requires a good share of human nature. You look at a piece of dry-goods, and from its general appearance pronounce it an excellent article. But the experienced merchant, who is a competent judge, may know very well that you sadly mistake it. Just so with regard to Physiognomy.

Again, the faces of those whose cares have been great, always have a care-worn look. The faces of those whose lives have been lives of sadness, always have a sad expression. And those who have had but little to do with either of these, invariably have a free and easy expression. Injure any part of a natural object, and you necessarily injure it as a whole. Let a child, or even an adult, fall down and injure any part of the body, does not the expression and very actions of that individual point to the injury? Can you not tell whether a person is angry, sad, pleased, or injured without his even uttering a single syllable? Is there not a difference between the facial expression of a rowdy and that of a gentleman? As the different parts of man's organism are closely united, a sensation felt at any one point is instantly telegraphed, as it were, throughout the body, and immediately

comes to the surface in the form of physiognomical indications. J. W. LOWE.

SOUTHERN VEGETARIAN GROUP HOME.—In this semi-tropic climate nine-tenths of the people live (I may say, die) on pork and smoked bacon, with fine flour, beans, and cabbage cooked with pork, etc. Whisky and tobacco are almost universally used, and very little of good vegetable food. I am anxious to hear something more of the Massachusetts correspondent, as well as any others who may decide to assist in the matter of forming such an organization. Let us who favor such a "Home" first effect an intercommunication, discuss all questions relating to the welfare of the scheme, such as the particular part or point of the country best suited for the founding of the Home, etc. Then, who shall be admitted, and upon what terms. But the main thing is to establish communication with each other. I am greatly in favor of a "Home," and trust that enough may take hold to push forward to completion a movement for introducing simple and healthful ways of living and a better social system. I will most cheerfully cast in my mite. J. S. C.

WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

ONE of the best mottoes: Remember to-day will never dawn again.

EVIL, like a rolling stone upon a mountain top,
A child may first set off, a giant can not stop.
—TRENCH.

A GOOD book is the precious life-blood of a master spirit, embalmed and treasured up on purpose to a life beyond life.—MILTON.

A FRENCHMAN being asked his rules for happiness, replied: "I have three rules: the first is occupation; the second is occupation; the third is *occupation*.

WORDS are like leaves; and where they most abound,
Much fruit of sense beneath is rarely found.
—POPE.

AGE is not all decay; it is the ripening, the swelling of the fresh life within, that withers and bursts the husk.—GEORGE MACDONALD'S "Marquis of Lossie."

I DO not hesitate to maintain that education must fail as long as we continue to think that children are born alike, and may receive with equal advantage every kind of education.—SPURZHEIM.

GO OUT of doors and get the air. Ah, if you knew what was in the air! See what your robust neighbor, who never feared to live in it, has got from it—strength, cheerfulness, power to convince, heartiness and equality to each event.

HERE is a variation on a rhymed proverb which the temperance societies might very appropriately set to music and sing:

Early to bed and early to rise
Makes a man healthy, wealthy, and wise;
But early to ryes and tardy to bed
Makes a man's nose turn a cardinal red.

A MAN'S first difficulties begin when he is able to do as he likes. So long as a man is struggling with obstacles, he has an excuse for failure or shortcoming; but when fortune removes them all, and gives him the power of doing as he thinks best, then comes the trial.

NOTHING can be more misplaced than to speak of physics poetically, and lavish figure and ornament where there should be only method, clearness, and truth. It is the quackery of a man who would pass off false systems under cover of an empty noise of words. Weak minds are caught by the bait, and strong minds disdain it.—VOLTAIRE.

MIRTH.

"A little nonsense now and then
Is relished by the wisest men."

IF you have religion you need not tell people about it; they will find it out after trading with you for a little while.

I FULLY believe in predestination; if a man will drink whisky and won't work, he is predestined to become ragged and go to the devil.—JOSH BILLINGS.

"HI! where did yez get them trowsers?" asked an Irishman of a man who happened to be passing with a pair of remarkably short trowsers on. "I got them where they grew," was the indignant reply. "Then, by my conscience," said Paddy, "you've pulled them a year too soon!"

A PARTY were enjoying the evening breeze on board a yacht. "The wind has made my moustache taste quite salt," remarked a young man who had been for some time occupied in biting the hair that fell over his upper lip. "I know it," innocently said a pretty girl. And she wondered why all her friends laughed.

HERE is something Stanley should see: A quaint character was "Old Dan," as he was called. His remarkable stories were known far and wide in the community where he lived. This is his latest: "I bought a geography and liked it first rate. I found everything I looked for except 'Jordon's stormy banks,' and to save my life I couldn't find them. Why, I even found the 'spring run' that run behind my daddy's house, but I couldn't find 'Jordon's stormy banks!'"

Library.

In this department we give short reviews of such New Books *as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor us with their recent publications, especially those related in any way to mental or physiological science.*

HIS GRANDMOTHERS. A Summer Salad. 16mo, pp. 192, paper 50 cts. New York: G. P. Putnam's Sons.

A picture is offered to the fun-reading public in this well-printed little volume of the life led by a young married couple with two grandmothers, both, it appears, being next of kin (in the ascending series) to the husband. The first chapter tells how they happened to pop upon the household of the young people. Both had been invited to come, but "grandson Winthrop" hadn't the slightest idea of realizing his invitation. Certainly no inclination that way.

The "taking off" of peculiar superannuation is in many respects vivid enough, but we think that the writer in the endeavor to be humorous inflicts something libellous now and then upon the grandmother-race by conduct imputed to "Grandmother Ogden." We are told, too, that the young people have received sundry articles of household equipage from the grandmothers, and the worst of them owns some right in the grandson's house, which should soften the tone of their literary treatment, notwithstanding the recited aggravations. Certainly Mrs. Ogden gets off a good many economical animadversions on the "shiftless" style of modern living. And we are half inclined to think that the author of the book has a sly motive in the way of reproving the spirit of extravagance which dominates in many households. Whether he has or not, some strong points with regard to family *ménage* are made.

ELSIE'S CHILDREN. By Martha Farquharson. 16mo, illustrated, pp. 340. Price $1.50. New York: Dodd, Mead & Company.

At the first introduction a reader would be likely to include this volume among the numerous childish stories and sketches which have found a remarkably free course during the past summer. The author certainly begins in a style which, aside from the title, has some warrant for such a hasty judgment. But Mrs. Farquharson is an author whose reputation and previous books lead us to expect a different treatment of her subject from that which is almost stereotyped in the hasty "baby" books of the day. She is experienced in portraying the characteristics of our boys and girls; all her volumes of which we have any recollection, viz., "Story of Elsie," "Old-Fashioned Boy," "Our Fred," show power of discrimination and a superior faculty in this specialty. "Elsie's Children" is a sequel to "Elsie's Motherhood," a volume which has found its way into many a family. Elsie, in this new *role*, has a "houseful" of children, and as there are several most excellent grown-up relations who take a deep interest in the little ones' welfare, they have a "good time" pretty much all the while, except when suffering the painful or disagreeable penalties of a madcap freak. The charm of wealth, ease, and refinement lights up the course of the story, and opportunities are not lost for the introduction of moral and religious instruction. This latter feature has made Mrs. Farquharson's books acceptable in some quarters for Sunday-school libraries. Barring a little extravagance of style, which is doubtless owing to the author's temperament and social environment, the book is creditable, and will be welcomed by young people who have read any of the author's other publications.

TRANSMISSION; OR, VARIATION OF CHARACTER THROUGH THE MOTHER. By Georgiana B. Kirby. 12mo, paper, Price 25 cts. New York: S. R. Wells & Company.

Within the space of seventy-two pages we have in this pamphlet a comprehensive discussion of the principles and facts relating to that most interesting subject, the transmission of character from parent to child. The author writes from the point of view of the original investigator, and adduces many incidents from life in support of her leading proposition that to the habit, avocation, and tone of mind of the mother the characteristics dominating in the temperament of the child are chiefly due.

The requirements for a proper marriage and its concomitant, true domestic happiness, are indicated with a vigor and a heartiness which show the writer's appreciation of home; and she also discusses the bearing of marital harmony upon social progress, discerning in the right relation of the sexes a chief condition of true national growth and prosperity.

The book was written for the general reader, and its graceful style and delicacy must please, while its subject-matter instructs.

Desirous of giving it the wide distribution it should have, the publishers have put it in a neat dress and fixed the price so low that all may procure it.

THROUGH ROME ON: a Memoir of Christian and Extra-Christian Experience. By Nathaniel Ramsay Waters. 12mo, pp. 352. Price, cloth, $1.75. New York: Charles P. Somerby, Publisher.

A very frank narrative this of the writer's religious, or rather, as may be more appropriate, sectarian life. Finding, while a young man, that

"the dogmatic foundations of Protestant Christianity rest on sand," he embraced the Roman Catholic order, and for eight years endeavored to practice in accordance with its precepts, but it becoming clear to him, by this experience, that "the liberal principle and the ecclesiastical are in vital antagonism," he withdrew from that Church and went "on." He tells us that his conscientiousness in childhood was morbidly sensitive, and subjected him to many painful experiences, and led him to make disparaging comparisons of the professions with the every-day conduct of friends whose "standing" in the Church was high. His juvenile readings were miscellaneously mixed — sermons, allegories, moral essays, biological treatises, romances, and novels, the latter being markedly in the majority, and many of them of the strongest type, such as Fielding's and Smollett's. Perhaps this miscellaneity of literary influence did not injure his religious apprehension; at least he thinks not, for in his Church career his conscientiousness was a dominant element, and would not permit him to accept a theory or system without conviction of its soundness. Thus he "was a tough young Christian from the start."

The volume reads like a confession, yet has so much of the argumentative character that, like Rousseau, the author appears to aim at excusing his course and inculcating his opinions. He is frank and clear in statement, making no effort to disguise his views with reference to Protestantism or Papacy, and attacking their most vital centers of doctrine with a boldness which must startle any orthodox reader. The book is a strong one in the interest of free thought.

HOSPITALS: their History, Organization, and Construction. Boylston Prize Essay of Harvard University for 1876. By W. Gill Wylie, M.D. New York: D. Appleton & Company.

Collegiate prize essays are not always of practical value, and hence the majority of them fail of notice by the public. When, however, such a value can be attached to one, the prestige given it by an institution like Harvard University will not fail to secure for it a general consideration, at least among the class specially interested in the subject treated. In the matter of hospitals the public has an interest equally with physicians, hence Dr. Wylie's admirably written and comprehensive volume should have a wide reading. It is not the work of a "literary doctor," but a carefully-thought-out discussion of the methods of treatment, arrangement of patients, and adaptation of buildings by one whose personal acquaintance with hospitals forms the basis of his opinions. We find scarcely an allusion to the part which drug medicaments perform in an infirmary, but a vast deal concerning the application of the principles of hygiene, and the need of skillful nursing; in fine, the author is most painstaking in showing that the successful management of the sick depends chiefly upon the purity, ventilation, comfort, and order of his environment and the intelligence of his nurse. How these important features may be obtained is considered with much detail, plans of arrangement being given in illustration of the text, and leading authorities, foreign and American, being drawn on for information or opinion. The enlightened reader can not but approve the design and suggestions for a "general hospital" and those for a "small hospital," so thoroughly are the principles of sanation considered. It may be superfluous counsel, but we would advise the health officers of our cities and towns generally to read this essay.

PUBLICATIONS RECEIVED.

FIFTY-NINTH ANNUAL REPORT of the Trustees of the New York State Library, for the year 1876. During that year, 3,505 volumes were added; a list of their titles is given. The total number now in the library is 100,772, of which 27,737 are in the department of law.

THE ATLANTIC MONTHLY'S announcement for 1878 contains many attractive features to lovers of good literature. Special inducements are offered to subscribers. Hurd & Houghton, New York, publishers.

DEFECTS OF HEARING and other Evils: the result of enlarged or hypertrophied tonsils. By A. W. Calhoun, M.D., Professor of Diseases of the Eye, Ear, etc., in the Atlanta Medical College. Read before the Medical Association of Georgia.

ADDRESS delivered at the Third Annual Meeting of the Association of Alumni and Officers of the Medical Department of the University of Buffalo. By Frank H. Hamilton, A.M., M.D., LL.D.

FIFTEENTH ANNUAL ANNOUNCEMENT of the New York Medical College and Hospital for Women. We learn that the session for 1877-8 of this useful institution is largely attended. It affords a wide field of medical study.

THE INFORMER, published by an association of philanthropic gentlemen at Elgin, Ill., is an advocate of reform in the practice of alcohol-drinking and tobacco-using, and is well conducted. We trust that it finds a liberal support.

A BRIEF ADDRESS on How to Come to Jesus. By D. L. Moody. Rev. Dr. E. B. Beadle's statement; Mr. Sankey's Farewell Hymn to Philadelphia; Fine Selections from various authors, etc. By W. W. Broom. Philadelphia, Pa.

THIRTEENTH REPORT OF THE TRUSTEES of the City Hospital, Boston; with reports of the superintendent and professional staff, etc. An interesting document concerning an admirably conducted institution.

NEW



PHYSIOGNOMY

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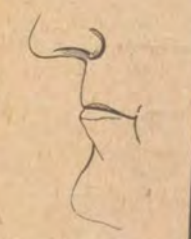
CHARACTER.



As manifested in Temperament and External Forms, and especially in the Human Face Divine. By Samuel R. Wells. 800 pages, more than 1,000 illustrations, with frontispiece, portrait of author. Heavy tinted paper, extra muslin; price, by mail, post-paid, $5.00; full calf, marbled edges, $8.00; turkey morocco, full gilt, $10.00.









THIS is a comprehensive, thorough, and practical work, in which all that is known on the subject treated is Systematized, Explained, Illustrated and Applied. Physiognomy is here shown to be no mere fanciful speculation, but a consistent and well-considered system of Character-reading, based on the established truths of Physiology and Phrenology, and confirmed by Ethnology, as well as by the peculiarities of individuals. It is no abstraction, but something to be made useful; something to be practiced by everybody and in all places, and made an efficient help in that noblest of all studies—the Study of Man. It is readily understood by all, and as readily applied.

Previous Systems are given in this work, including those of all ancient and modern writers.

General Principles,—the Physiological laws on which character reading is based.

Temperaments—Ancient Doctrines—New Classifications now in general use here.

Practical Physiognomy—General Forms of Faces—Eyes, Mouth, Nose, Chin, Jaws, Teeth, Cheeks, Forehead, Hair, Beard, Complexion, Neck, Ears, Hands, Feet, Voice, Walk, Laugh, Dress, etc.

Ethnology—The Races, Caucasian, Indian, Mongolian, Malay, and African.

Physiognomy applied to Marriage, Training of Children, to Personal Improvement, to Business, to Insanity and Idiocy, to Health and Disease, to Professions, to Personal Improvement, and to Character Reading, Utility of Physiognomy.

Animal Types—Grades of Intelligence, Instinct and Reason, Animal Heads and Animal Types, seen among Men.

Graphomancy—Character revealed in Handwriting, Palmistry, "Line of Life," illustrated.

No one can read this Book without interest, without real profit. "Knowledge is power," and this is emphatically true of a knowledge of men—of human character. He who has it is "master of the situation;" and anybody may have it who will, and find in it the "secret of success" and the road to the largest personal improvement and usefulness.









NOTICES OF THE PRESS.

"Among those who have contributed to the advancement of the Science of Physiognomy in this country, the author of this book is honorably distinguished, and we feel pleasure in bearing testimony to the conscientiousness and ability with which he has executed the laborious task that he imposed upon himself."—*New York Herald.*

"The most complete hand-book in the language; a man who can not find amusement and instruction in Mr. Wells' book, must have a very stupid face indeed."—*New York Tribune.*

"Take such a volume as this, and every one must acknowledge that physiognomy opens a wide field for interesting investigation."—*New York Times.*

Agents may do well to canvass for this work. Address, S. R. WELLS & Co., 737 Broadway, N. Y.

Given as a Premium for 5 Subscribers to the "Phrenological Journal" for $2 each.

THE PHRENOLOGICAL JOURNAL

AND

SCIENCE OF HEALTH



BRAIN IN THE SKULL.



THE SKULL.

THIS publication is widely known in America and Europe, having been before the reading world nearly forty years, and occupying a place in literature exclusively its own, viz.: the consideration of the SCIENCE OF MIND, the chief among the subjects to which human thought is directed. PHRENOLOGY unfolds the relations of Mind and its physical instrumentalities; shows how the multifold diversities of human character and capacity are related to universal laws, and by a positive analysis of individual mentality ministers to individual usefulness, designating special aptitude, and indicating the methods by which mental and physical deficiencies may be remedied. As an agency in training the young, in correcting and reforming the vicious, and in controlling the insane, its value can not be estimated.

PRICE REDUCED, FOR 1878, FROM $3 to $2 A YEAR.

In consideration of the continued hard times, and wishing to increase a knowledge of and interest in Phrenology and Health Reform, it has been deemed best to reduce the subscription price. The size of THE JOURNAL must of necessity be reduced somewhat, but this change will not be in proportion to the reduction in price, while the quality of reading-matter, scientific and miscellaneous, will be more than maintained. Each of the several important departments will be retained, and no expense spared to make THE JOURNAL the best and most useful publication for general circulation.

THE JOURNAL for 1878 will contain a series of carefully-prepared articles on THEORETICAL and PRACTICAL PHRENOLOGY, under the title of

"BRAIN AND MIND."

These papers will be amply illustrated, and furnish the subscriber and reader with a clear exposition of the science in its various departments.

It is also purposed to publish a series of articles, by a writer of experience, on the Training of the Young. These articles will be entitled

"MY HOME KINDERGARTEN."

Besides, the Portrait and Biographical Sketch Department will be fully supplied, and each number will contain useful suggestions on home and sanitary matters.

Terms.—Published monthly at $2 a year, single numbers 20 cents. Clubs of ten at $1.50 each, and an extra copy to agent. A new volume begins with the January number, and the last three months of this year will be sent FREE to new subscribers whose subscriptions are received for 1878 before January 1st.

AGENTS WANTED. Liberal Cash Commissions given, or choice from liberal Premiums; and at these reduced rates large lists of names should be obtained by every canvasser. Send for Terms.

Address S. R. WELLS & CO., Publishers, 737 Broadway, New York.

Publishers' Department.

The business affairs pertaining to the publication and circulation of this Journal, and other miscellaneous and current matter, with advertisements, in general, are inserted in this department.

ANNOUNCEMENT.

In the August number the subscriber may expect to find sketches of Henry Clay, the Sultan of Turkey, the Czar of Russia, with some account of the generals commanding the Russian and Turkish armies, and a sketch of the Ohio Wesleyan University, with portrait of President Payne. A new story illustrative of Life and Character, by the editor, will be commenced, and, if ready in time, "Glimpses of Life in the Sea," with illustrations.

Opinions of Correspondents.—A few extracts from letters recently received indicate somewhat forcibly the sentiment entertained with regard to the PHRENOLOGICAL by the great majority of its readers.

"I have been taking the JOURNAL for three years, and the more I read, the better I am pleased, and the more convincing are the teachings and principles of Phrenology."—(J. W. B.), *Jewitt, Texas.*

"Let me give my testimony to the truthfulness of Phrenology as I apply it to the half-civilized, untutored people among whom I live. They can not conceal their true inclinations, nor do they try to do so, but act out their real character, and it corresponds with their phrenological indications *every time.*

"I have noticed the most prominent phases of their character in their superstition, next in their caution, next secretiveness. You could give a good contour of their head if you had never seen one."—(A. J. H.), *Bap. Mis.*

"Indeed, I would prefer it to any religious paper I have ever read, and I pity the person that can read it and not strive to be a better man or woman.

"My scribbling may not interest you enough to pay you for reading it, but it comes from a heart that loves the work in which you are engaged, and whose best wishes are for your success."—(W. M. C.), *Winterwood, Ind.*

"I have been a reader of your PHRENOLOGICAL JOURNAL for more than three years, and have learned to love and respect the principles therein as coming from the hearts of those whose great interest is for the improvement of the present and rising generations. I can not express in *words* how much your periodicals have done me, but I trust it may find expression in my influence with others.

"My husband, too, has been a constant and devoted reader of your publications for nearly nine years, and I feel that to *them* more than to any other cause he owes the right development of his truly noble character."—(A. G.), *Spencerport, N. Y.*

"I will be one among your many readers to add one new name to your list. Since I've been interested in your JOURNAL I can no more do without it than to eat and drink, for it is meat unto my soul and intellect."—(W. R. F.), *Emerson, Iowa.*

"I had for some time desired a periodical entirely free from the silly sentimentalism of the day. I at last came across the JOURNAL, which seemed like the return of an old friend; for 20 years ago and over I was a regular subscriber for some time, and was well pleased with it. I find it has grown in almost everything that feasts, instructs, and improves the mind and heart."—(C. G.), *Battle Creek, Mich.*

"We subscribed for the PHRENOLOGICAL JOURNAL AND SCIENCE OF HEALTH at the commencement of the present year, and we like it *very* much. We greatly admire its brave, fearless tone and high moral standard, and think it destined to accomplish a vast amount of good in rooting out old prejudices and errors, and in letting the light of truth into thousands of minds long darkened by superstition. I think the JOURNAL ought to be read in every household in the United States, and I wish it God-speed on its noble mission."—E. L. SHERMAN, *N. Y.*

"Your ever-welcome JOURNAL is at hand for June, and as I read it carefully it is a matter of wonderment to me how people can do without it. I would almost as soon think of living without talking (and that is saying a good deal for an editor) as to attempt to live without the JOURNAL. I find it replete with good things, and overflowing with wisdom. My opinion is, if more people would take and read it we would not meet so many daily who are at a loss to define their positions. Long may the JOURNAL live, and may its editors continue in the good work until the reading world shall be posted upon the great science of Phrenology."—(J. F. E.)

Reduction of Cost.—The Board of Trustees of the American Institute of Phrenology have resolved to reduce the price of tuition for the summer and autumn sessions of the present year, to seventy-five dollars, in consequence of the hard times. It is hoped that all who intend to come as students, and all others who hope for the diffusion of a knowledge of human science, will use influence to induce the right type of students to attend.

To Our Local Agents —Now is the time for our *local agent friends* and others to canvass for the JOURNAL. A new volume commences with this number, so this is a good time to subscribe; besides this we are now offering splendid BOOK PREMIUMS to subscribers, new and old, and these premiums do not in any way affect the premium offered to the agent. The combination of premiums, those given to the subscribers and those to the agents make our premium offers without precedent in liberality. For instance, for three subscribers to the JOURNAL, New Physiognomy, worth $5, is given as a premium; besides this $4.50 worth of books are given to the subscribers, making $9.50 worth of books and $9 worth of JOURNALS for $9, and the postage extra, which, if the books are all sent by mail, amounts to $1., and so on with other premium offers. While this offer is in force will not the friends of the JOURNAL take advantage of it, and help themselves as well as help the cause along? Now is the time to try it.

Woman's Health.—We are very glad to note the success that Mrs. Dr. Abbie E. Cutter is meeting with in her physiological lectures. She has been for some time in Louisville, and from a report in the *Courier Journal* we judge she is stirring matters up considerably. She has replied very forcibly in the papers and in a public lecture to the restrictions on lady physicians made by Dr. R. W. Gaines, late president of the Kentucky State Medical Society. She uses electricity as a specialty in connection with hygiene, and is building up a successful practice. She has recently organized a Ladies' Physiological Society. The following taken from the constitution will show something of the scope and objects of the society:

"Article 1. This society shall be called the Ladies' Physiological Association, of Louisville and vicinity. Its object is to promote among women a knowledge of the human system, of the laws of life, health and development, and of the best means of preventing and relieving sickness and suffering.

"Art. 2. The society shall provide instruction upon all subjects belonging to the science of man, especially hygiene, physiology, psychology and anatomy, in their practical bearings upon the prevention and cure of disease, the training of children and youth, and the general improvement of the human race. But no subjects shall be introduced for consideration by the society which have not a direct bearing upon social and personal improvement and happiness.

"Art. 3. The society shall procure a collection of apparatus, illustrations, engravings, etc., as a physiological museum, to which the members of the association shall have access, and a suitable library for the use of its members."

The names of one hundred ladies were immediately subscribed, and others have since joined. This society and Dr. Cutter have our best wishes so far as they are working in the direction of hygiene and health reform.

Our Croquet Premium.—This is the season of croquet-playing, and now is the time to procure a set for nothing. We make extraordinary offers in this direction. For two subscribers at $3. each we give a $6. set of croquet, and to each subscriber a book premium by remitting the extra 25 cents each as a postage. For five subscribers and $15. we give a $17. set of BRADLEY'S PATENT CROQUET, with all the improvements and extra finish, and book premium to subscribers. There need be no excuse for not having a good set of croquet. Boys and girls should work for this premium.

The Summer Class OF THE AMERICAN INSTITUTE OF PHRENOLOGY, will be opened on the sixth of July, and continue as usual, six weeks. Here the teacher may forget the drudgery of the dry studies which wear his brain and weary his body; the overworked minister may, for a brief time, stop giving off nerve force constantly in the way of instructing others; the student may lay aside his lessons in mathematics, grammar, geography, chemistry, and the Greek and Latin classics, and become the happy recipient of a knowledge of himself, may learn how the human mind can become the source of happiness and of power.

The most of human life is occupied in efforts that work outwardly, that act on the world of matter, but which do not build up the real individual. A man may become the factor of profit to the community, and so may a steam-engine, or the rushing stream which idly flows through a town. Thousands wear themselves out in mere physical work, or efforts for financial prosperity, and obtain little or no knowledge of their higher or inner life. He who learns the great laws of his own mental and moral powers, and cultivates that which makes him more than an animal is the one who lives a true life, and earns a place in the memory and reverence of the race.

The use and culture of mind and soul is as much superior to mere secular business and financial success, as mind surpasses in value mere matter. Who asks, or cares to ask, if Shakspeare, Milton, or Burns were rich; Who thinks or cares to inquire if Tennyson, Longfellow or Bryant possess worldly wealth? They are prized, and will be remembered with honor when a hundred subsequent generations of rich, business men will have been forgotten. All who teach, preach, write or wield influence over mankind by guiding and controlling their mind and character, will find the study of Phrenology the greatest possible aid to the accomplishment of their life-work.

Human science stands first in the realm of thought and study. This knowledge attained, all else becomes doubly easy and delightful. By obtaining it the business man doubles his power, because to do business easily and successfully he must know the minds and characters of those whom he would influence. All should obtain this knowledge, and the best facilities for doing so are afforded by the instructions which are given in the American Institute of Phrenology. For information on the subject please send for circular to S. R. WELLS & CO., 737 BROADWAY, N. Y.

Our Premium Books.—As announced in our June number we have decided to offer BOOK PREMIUMS to those who renew promptly or subscribe at once for the coming year, sending with the subscription price 25 cents extra for the payment of postage on book and JOURNAL. This offer is especially made for renewals, to prompt those whose subscription expired with the June number to send in their renewals at once, but is extended to all, whether new or old, and those whose subscriptions have not yet expired may take advantage of the offer by subscribing now for another year in advance. The list of books offered will be found on another page, and includes our most useful and popular works. Send on your names at once with the amount, naming the books desired. Should others, or higher price books be desired, they may be procured by sending the difference in price, but must be selected from our own publications.

How to Raise Fruits.—This work is now having a large sale and especially by book agents, tree agents, and nursery-men. It is *the* book on this subject, and should be owned by all who are in any way interested in growing orchard fruits, small fruits, grapes, berries, etc. As an indication of the merits of the work we publish the following from many

NOTICES OF THE PRESS.

"This recent addition to the admirable "How Series," published by the above well-known house, embraces, within its one hundred and eighty pages a careful digest of the experience and wisdom of the best fruit growers."—*Demorest.*

"We feel it incumbent on us to recommend it to the readers of the *Rural*, aspresenting in a condensed form much valuable matter. There are books on fruit culture four times its size with one half its information. While we might take issue with the author on some minor points, as a whole we cheerfully commend it to all who have even one square rod of ground to cultivate."—*Rural New Yorker.*

"This is one of the handsomest books that have come to our table during the year. Any information needed by the ordinary fruit grower on the subject, we think, can be found in this convenient little book. It gives excellent hints on the subject of varieties, and will be just in season now."—*Methodist Recorder.*

"Its pages are crowded with valuable information, and copiously illustrated."—*Western Farmer.*

"Without pretension to elaborate fulness, this well-printed book meets the requirements of a manual for the use of the young or amateur fruit raiser, and is not wanting in many suggestions which the experienced pomologists would find profitable."—*Inter-Ocean.*

"This little book is a thoroughly excellent and practical treatise; and it has our special commendation, not only on account of its valuable instruction to fruit growers, but for its convincing demonstration of the value of fruit to the farmer as a source of revenue, and to the consumer as an article of diet."—*Scientific Amer.*

"This is a very useful work, and should be in the hands of every one interested in fruit culture. It treats the subject very fully, and gives instructions in raising all kinds of fruits. Farmers often grope blindly along, grumbling at their want of success, when the investment of a small sum for a work like the above would shed light on the dark places, and turn the tide of success in their favor."—*The Housekeeper's Companion.*

"The practical part of the book is largely devoted to lists of the best fruit trees, vines, etc., and their planting and after culture. From a pretty careful examination of this part we are pleased to say that it is very well done, and that that class for whom it is intended, those with moderate means, may consult it with profit."—*Herald of Health.*

"With condensed descriptions of many of the best and most popular varieties. Is fully illustrated, conveniently arranged, and well worth the price.—*Ind. Farmer.*

"We know of no book of its class which is likely to prove more satisfactory."—*Christian at Work.*

"A manual for the use of the amateur fruit raiser, with suggestions which the experienced pomologist may find profitable."—*Rod and Gun.*

"Its price considered, we know not the volume which contains a greater amount of useful information on fruits and their culture, and which is more tastefully gotten up."—*Western Christian Advocate.*

"The author is a practical cultivator, and writes with interest and zeal, and these qualities go far toward making a valuable book."—*The Cultivator and Country Gentleman.*

"The design has been carried out with good judgment, care, and consequent success."—*The Phila. Inquirer.*

"This hand-book, besides being useful to those who take a special or professional interest in fruit culture, is full of the most varied information, which will interest even the most casual reader."—*Telegram.*

"The volume is illustrated, and its style is clear, the absence of scientific fog, in the nature of technical terms, adding much to the value of the book."—*Prairie Farmer.*

"This hand-book is practical and plain."—*Forney's Press.*

"A contribution an amateur horticulturist should especially welcome."—*Evening Traveler, Boston.*

A Necessary Article.—No one should drink impure water. Even that which we get from the clouds needs purification for drinking purposes. But in great cities where the supply for the household is obtained from an aqueduct the water is not always of a quality good enough for the purposes of the toilet and laundry; so that for food use its purification is indispensable. If one can not get a regular filtering cask he can get the next best thing, a good strainer, of which there are several patterns. A very convenient and desirable device is that made by the Globe Filter Company, of No. 9 Murray St., New York. It is of spherical form, lined with tin and filled with silica and charcoal, thus combining something of the property of the filter to the strainer. It can be attached to the faucet of the water pipe or cooler, and is reversible so as to be readily cleaned.

Rocking Chairs.—In the present number of the JOURNAL will be found an advertisement of Sinclair's common sense chairs and rockers. These are a most excellent and, indeed, a "common sense" chair. They are well made, exceedingly strong, using the splint bottom and backs, and are made so as to fit the body. They will be found very durable, and are cleanly, not gathering dust as is the case with most easy chairs. From one to a half dozen, at least, of these should be found in every well-regulated household. Send your address with stamp to F. A. Sinclair, Mottville, N. Y. for circular, saying the notice was seen in the PHRENOLOGICAL JOURNAL.

Silver-ware Premiums.—Among our most popular premiums are silver-plated table-ware, something that is always needed, and is still by many considered a luxury, but when obtained on the liberal premium plan set forth in our premium list considered a necessity.

One Cent a Day.—Less than one cent for each working day in the year will secure the PHRENOLOGICAL JOURNAL AND SCIENCE OF HEALTH regularly, and who is there who cannot afford this amount? By sending now you can secure a BOOK PREMIUM itself worth half the cost of a year's subscription.

Personal.

General Grant has gone to Europe. He is the first ex-President to cross the ocean since the days of Frank Pierce. Of the nineteen presidents, Washington, Madison, Jackson, Harrison, Tyler, Polk, Taylor, Lincoln and Johnson, never crossed the ocean. Those who visited foreign lands were John Adams, Jefferson, Monroe, Quincy Adams, Van Buren, Fillmore, Pierce and Buchanan. It is said that the ex-president on his arrival in London was received with general acclamation, given a special audience with Queen Victoria, and made the guest of Mr. Disraeli, the Prince of Wales, and of other members of royalty and nobility.

Pere Hyacinthe has recently been delivering lectures on "Reform in the Family," at the Cirque, Paris, but it is said that the eloquent orator, who once held his congregation spell-bound, can now scarcely command attention, on account of his change of religious opinion. Another paper says that his Sunday audience numbers 4,000.

It is becoming to mention that the Institute has been presented with a fine bust of Pere Hyacinthe, by Mrs. John Hecker, which was moulded from nature expressly for Mr. Hecker.

Paul Morphy, the famous chess-player, the papers have repeatedly told us, is an inmate of an insane asylum. A New-Orleans paper now says that, instead of being confined, he can be seen any afternoon on Canal Street, in that city, attending to his own business, and apparently willing that other people should do as much for themselves.

Fletcher Harper, the last of the "Brothers" who built up the great publishing house in Pearl Street, died on the 29th of May, in his seventy-second year. He was a man of remarkable business energy, but quiet in his methods.

Dr. Stephen H. Tyng, Sen., who was for some time extremely ill of typhus fever, complicated with erysipelas, is now, we are glad to say, well on toward recovery.

Barnum has advertised for Charley Ross; offers $10,000 for him. Probably the great showman would find him, if anybody could.

Business.

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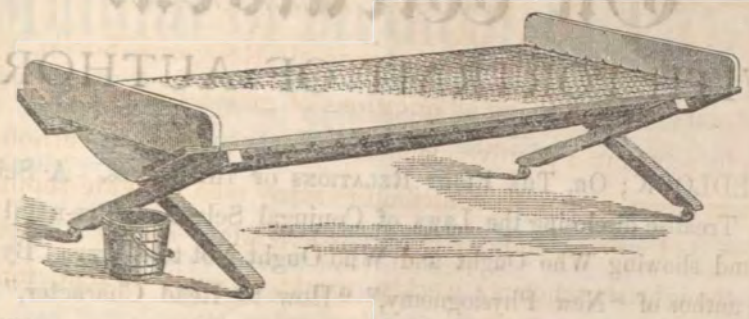
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It is not to the professional phrenologist alone that the AMERICAN INSTITUTE OF PHRENOLOGY appeals; for while all who attempt to practice the profession as such will appreciate the value of the thorough course of training and instruction in theoretical and practical phrenology which can be obtained nowhere else except in the AMERICAN INSTITUTE OF PHRENOLOGY, it would be wise economy for all teachers, managers of business, salesmen, commercial travelers, statesmen, physicians, lawyers, and ministers to learn the truths which phrenology and physiology unfold in respect to human nature; how to train it, manage it, and govern it. People strive with each other intensely and ignorantly, annoying and vexing one another, wishing to live harmoniously and appropriately together, and to exercise in business, and in social life, those functions of comity and interchange which

belong to the various phases of life and business; yet there is such attrition, such cross-purposes, such friction and irritation, that life is verily a struggle. Men do not wish to quarrel; they seek to be harmonious; they wish to comport themselves toward all men kindly and justly, but they understand human nature so little, and do not know how to adapt themselves to persons of different dispositions, having no settled philosophy of mind, that they seem better informed in almost everything else than in managing the customer.

A physician learns pathology, can make a sharp diagnosis of the condition of the patient, but knows nothing at first about the disposition of his patient; how to soothe, govern, regulate, and lead upward the nervous invalid he has to deal with. A lawyer may understand his brief and the laws relating to it, but his jury and the witnesses are to him a *terra incognita;* that is, land which he surveys like a blind man trying to walk over a rough territory—he finds the impediments by stumbling over them; he learns to avoid difficulties when it is too late to profit by it. The lawyer sometimes mars his case before he learns how to manage it.

In short, *human nature* enters largely into every transaction, and he who knows how to understand and read human nature at a glance makes life's duties flow smoothly, successfully, triumphantly. That minister, lawyer, physician, merchant, teacher, parent, who has the natural tact and sagacity to understand character by intuitive instinct better than his fellows do, is the one who rises to distinction in his or her field of effort. Occasionally a mother is renowned as far as she is known for the happy, successful manner in which she trains her family, guides her conduct toward everybody, and makes herself a benign center of potent influence. One says: "I try hard to please my customers, my pupils, my clients, my children, my neighbors, but somehow everything goes against me." Students whom we have instructed at the INSTITUTE, have gone back into their vocation, and seemed to themselves to be in a new world. They have learned how to "rub the cat the smooth way," for as soft as fur is, there is a rough way to rub it, and the best of human beings like to be rubbed the smooth way of the grain.

Instruction in this science teaches men how to understand and use their own faculties as well as how to understand the dispositions and talents of strangers, and therefore what faculties to call into action to produce the desired results. The pianist learns by studying the musical score what keys to touch to evoke the harmonies, and how to avoid the discords. She may not attain any extra muscular power to operate the keys, but learns which to touch.

As all business, all science and learning, and nearly all of human happiness and success grow out of the right action of the mental faculties, the study of this great theme is the crowning field of effort, for how valuable soever may be the knowledge of the sciences which relate to outward things, engineering, agriculture, manufactures, commerce, they must all take a place second to that which deals with the human mind itself. Food and raiment perish with the using, but whatever relates to the mind, to the inner and higher manhood, must take the highest place in human consideration.

THE SUMMER CLASSES OF 1877.

CLOSING EXERCISES.

On the evening of August 10th, the Session of the Summer Class of 1877 was brought to a close. The following is a condensed report of the proceedings:

MRS. WELLS' ADDRESS.

WANTED! is written everywhere—Honor, Honesty, Knowledge, Power, are wanted. Still, these are abundant for all—they wait only for us to reach forth and grasp and use them with intelligent action. Whatever will aid us in acquiring these, it is our privilege to make use of, whether it be in science or in art, or both combined. Phrenology being one of the helpful sciences, it is well that you should obtain the knowledge that would enable you to make practical use of it, and that is the art which you have been acquiring. Will you now hide your talents or bury your ability to help others along in the world?

More will be demanded of you than ever before, and if you do not make the best use of this knowledge—with honor, honesty, and intelligent action—you will see written everywhere, and upon all things—*Wanted.*

Your responsibilities have increased with the capabilities you have acquired here, and your accountability will be augmented accordingly. Then step forward and fill the gap, for you are all the better prepared to enter important positions, and the straight and narrow way will prove more desirable to follow than the broad one.

We shall be anxious about your reputation, for our graduates are closely watched and criticised. Let your record be always clean. Hitherto none of them have disgraced themselves or the cause, to our knowl-

edge, and we have confidence to believe none of this class will be the first to make us wish to disown them. If you have reason to be proud of yourselves, we shall have reason to feel thankful.

Let your light shine like stars in a cloudless night, and so comport yourselves that flaws could not be found even with a telescope. "Be ye therefore perfect" was not said without a meaning.

You seem to us like a part of our family, and it will not be pleasant for us to say farewell. Still, it is best for you to be up and away, and we bid you a cordial God-speed!

MR. DRAYTON'S ADDRESS.

YOUNG GENTLEMEN OF THE SUMMER CLASS OF 1877: This, I regret to say, is the last occasion on which we meet on that footing of instructors and pupils, which I trust has been very pleasant to you—it certainly has been to me. You are now going out into the world to illustrate what we deem the truth in Mind—in Mental Philosophy. You came here, a few weeks ago, with certain views with regard to the philosophy of the mind and Phrenology, and you may have entertained certain doubts with respect to Phrenology, and came to us to have those doubts dispelled. Perhaps our instruction has enabled you to dispel them, in great part at least.

You go abroad with certain impressions that have a convincing influence upon your future activities. You know more about the subject of Phrenology now than you did when you entered the Institute; more concerning yourselves; more concerning humanity; and have gained in strength and capability.

I have but one line of thought to present to you in the few minutes allotted me, and it may be premised by the injunction: "Have one object in view—one definite object."

A few days ago, while making some remarks before you, a question was propounded which indicated a disposition to enter upon the consideration of extraneous subjects. Of course, we claim that every subject has a kindred relation to Phrenology—every subject which humanity can entertain; but there are many subjects which must be looked upon as aside; and as the world progresses, and men are becoming specialists, we must have some definite purpose—some one vocation with which to cut our way through life.

You know that in the days of Rome, when that nation was in its glory, there were certain public men who were called *lictors*. They carried the *fasces*, or emblem of authority. The *fasces*, it is unnecessary for me to state, was nothing more than a bundle of rods, with an axe in the center. Now, I wish to liken your efforts, in connection with Phrenology, to these *fasces*, the central energy or impulse—the principles which we have endeavored to fix upon your mind—being the axe and the material *data*, the aids which you shall employ for the application and illustration of those principles, being the rods closely allied.

Men of one idea are the men who contribute to the progress of our civilization. I do not like the term "one idea," yet when I consider the specialists of the day—such as Huxley, Tyndall, Thompson—and recently we have heard of another, a very remarkable man by the name of Edwards, a naturalist in Scotland—I appreciate the power which one-ideaism gives to character. But it is not necessary that in carrying out one object, one purpose, you should render yourself conspicuous for anything like eccentricity. My objection to the "one idea" is on the score of its contributing to eccentricity of thought and action.

Now, Phrenology will save you from eccentricity, simply because it enables you to understand your own characters, and so to avoid many errors, many irregularities, and to preserve your integrity. Do not be one-sided. If you earnestly study man in all his parts—in all his relations—you can scarcely become one-sided.

In your relations with others, keeping this one-idea object in view, let them understand that you illustrate in your practice the truth as you understand it—that you are honestly acting a decided part, and are seeking to do others good. In your treatment with others, impress upon them the fact that they are human. We forget too often that we are human. We are inclined to arrogate to ourselves characteristics which are above the human, and so we very often act in a manner which is beneath the human. Speak the truth. You have the best opportunities in the world for admonishing others with regard to their errors. You have ways and means of reaching the inner man—the habitation where the spirit dwells—opportunities and privileges which no other class of men possess. So, let this be a sort of talisman for your guidance. Speak the truth, bearing in mind what a poet has said, "Speak truly, and thy word shall the world's famine feed."

DR. NELSON B. SIZER.

As this is the last opportunity which I shall have, in company with the other instructors, of talking to you as a class, I desire to impress upon your minds several points in the study of the human individual, Man, as you will find them to aid you in every way. As the mind is undoubtedly the crowning part of the human body, and as it makes man the crowning animal by his possession of mind, so it is the last part of the human being which should be studied. Not that the study of mind is of less importance than any other part, and should, therefore, be put off to the last. Far from it. But in order to understand the mind in its practical applications, that is, mind as it influences the body, we want to study the rest of the body first, because, if we commence with the study of the mind, the brain and its functions at first, we are only baffled and puzzled by running against snags of fact and theory which we do not know anything about; things we should have known beforehand. And, therefore, you should make yourselves masters of anatomy and physiology particularly; especially in the case of the nervous system. You should keep yourselves abreast with all the leading investigations of the day. When you buy text-books do not buy old editions, for it is harder to unlearn two or three errors than it is to learn a dozen new truths. As you go on in teaching Phrenology, in lecturing, as I suppose many of you will, you will find people who think, who know a good deal, and some of whom are very well posted, asking you tough questions. If there is anything which puts a man in a bad position, it is to claim a position as teacher on any subject, and to find himself discomfited before an audience. For that reason you want to be masters of anatomy and physiology. Strive to keep up the honor of the profession which you have studied. If there has ever been a curse to any profession, it is the presence of unworthy members. Lawyers are scandalized by those that are called shysters. In my own profession we have any number of ignorant and presumptuous quacks. And so it is with your profession. There have also been masters in Phrenology. Strive, then, to raise the general average of your profession, and raise yourselves by doing so. Do not make statements about things, and vindicate views which you are not prepared to back up by your own practice. You know theologians make a difference between didactic Christianity and experimental religion. The one is the thing the man reasons about; the other the thing he lives out. Now, just so with you. If you talk against habits of eating, of drinking, of anything which you think wrong, your opinion will not amount to anything if you do not follow out your own principles. You can preach all day, and if people hear you speak things you do not practice, your argument will fall to the ground.

As far as my own experience goes, I have had a great deal of pleasure in teaching what I could to you, because you always seemed eager to learn, and wished to know more.

We all wish you success, and wherever you go you will be watched anxiously from here, because we feel our own reputation to be linked with yours, and yours with ours. We trust you will never disgrace the Institute nor yourselves.

MR. SIZER'S ADDRESS.

STUDENTS OF THE CLASS OF '77: We have come to the close of our work. For more than half a hundred times I have stood before you, giving you so far as I might be able to do, the best effort and the richest experience of nearly forty years of labor in this great cause. How many more years it may be vouchsafed to me to address students, is known only above; but while I live I trust I may be able to do something to forward the cause, which, to my mind, seems central in this great working world.

When I stop to consider what is our field of effort, when I look forward up that bright vista into which you to-day enter with hope, possibly with fear and anticipation combined, I ask myself, What is it that we undertake to teach; what is it that we undertake to do for the human race? It is not our primary object to make men richer; it is not our object to flatter men, but to open to them the laws wh

govern human nature in its highest type of development; to show them how the human soul's yearning for light and liberty and power may find its best passport to high achievement and grand result. We do not offer you on entering this profession great or sudden wealth. Your work is that which aims to elevate men, and rid them of habits to which they may be wedded; and this kind of work is not always welcome to the recipient. But faithful service shall finally win respect, confidence, and reward. Dr. Gall, the discoverer of the true science of mind, was obliged to leave his native country and labor in a land of strangers, but he so vindicated the grandeur of his work that the brightest minds of that grand center of science and learning, Paris, stood over his grave and shed affectionate tears to his memory.

Remember, gentlemen, that you go as pioneers in a great work; a field occupied by few; I venture to say the field of highest human endeavor; for while the teacher and the preacher, the lawyer and the physician treat human beings who are advanced in development, and try to curb them within certain fields of effort, and restrain and guard them against wrong; your business it is to teach parents how better to give life to and train children who shall stand on a higher plane than the parents themselves; to teach the mother, when the infant cherub reposes upon the maternal bosom to see in its organic structure how she must guide and cultivate him to make him worthy of his ancestry, and worthy of a higher and better life. You do not cater to the fashions of the body. It is your business to strike at the root of human life, and teach mothers how to tr in their children for honor and immortality; it is yours to teach the teacher how to guide and regulate the young mind as it is advancing into the active duties of life, and thereby to give to the world a generation of educated people, who shall illustrate virtue as well as adorn science and literature. Men are justly honored in the walks of physical science; these studies are important; but they sink into comparative insignificance when we investigate the immortal mind, the highest and best work of the Creator; and it is with pleasure and with pride that we open to your longing vision, and to your eager energy, this great field which you are to occupy when those who have helped you into it shall have ceased to work on earth.

It remains to us now, gentlemen, to give to you the right hand of fellowship, and welcome you into the fraternity of Phrenology. We have for each of you a diploma which shall be to you a passport to the respect and confidence of all men, an evidence that you have passed the ordeal of instruction here afforded, and that you are better qualified to go out into the world and publish this subject than those are who have not had such opportunity. You come to us from widely separated homes; from Canada to Tennessee, North and South; from New England to Iowa, East and West, you come, and we welcome you, one and all. Remember as you go out from among us that our affections, our hopes, our counsels, if need be, go with you. Your names and your faces will remain familiar to us; the eager earnestness with which you have listened to our instructions will not be forgotten. As you grow into stalwart manhood in this work; as your names become celebrated through the length and breadth of the land, as we trust they may, it shall be our pleasure and our pride to remember that you have been students of ours, and that we have helped you into this great field of labor. Remember as you go out from us that there are five millions of anxious mothers who are asking themselves, What can I do to guide my boy to honor and happiness? What can I do to make my daughter illustrate virtue, intelligence, and affection? Remember that tens of thousands of teachers wait to be instructed by you and thereby aided in their great work. Remember that five millions of young men to-day, in schools, in colleges, and in every department of business, stand on the threshold of active life anxiously waiting to know what they shall do, and what course of life they shall pursue. It is your business and your function to give them the guidance they need; to prescribe to every man a proper occupation, whether it be called high or low, and you thus give him a passport to ultimate success. Men strive through approbativeness and morbid self-esteem for positions they are not capable of filling, and they fail; and the tens of thousands of failures which crush out hope and discourage mankind arise from overweening vanity for something better than they are able to do. If you can tell a man he is best fitted to be an agriculturist, and that he will make a good one, you have done him a service, and saved him from fruitless effort in other vocations. Remember that when you have described the character of ten men and told them the best way to live, and what they are best adapted to pursue, you have added ten per cent. to their power and value. Every day of your life you can add one good man to the stock of human life by making every man whom you advise and instruct, ten per cent. better, wiser, and stronger; and if you have ten customers a day, you will have added day by day the value of a man to the race without increasing the number. You have raised each man in the scale of human life, and this you may do every day that you shall practice this profession.

Do not forget, gentlemen, to improve yourselves. Accept culture; learn every day; be wise, be true, be temperate; work for the honor of the theme which you sustain, and you shall work out reward. I have seen men start into this field anxious to pile up money and make themselves rich, so that they could retire and be independent. I have never known one such man as that who was a success in anything but money, and that is the meanest kind of success, if it is sought merely for its own sake. But whenever a man has sought to be true to his science, and true to himself, and true to his fellow-men; whenever a man has felt, Now I have a brother under my hands, and I must make men wiser and better, richer and broader in all that belongs to goodness and wisdom; such men have always made advancement, they always attain to honor and to competence. To this mode of doing business, to this method of exemplifying your skill we commend you, and confidently trust that you will have abundant success.

REMARKS BY MEMBERS OF THE CLASS.

Mr. Keith—It is with a shade of sadness that I contemplate the dismissal of this class. Our associations have been mutually pleasant and profitable, and have generated the nucleus around which will gather the fruits of experience and the investigations of maturer years, and over which memory will fondly linger. In whatever field of effort we pay our dues to nature, labor must carve the forest pathway to success. As phrenologists, we can offer no exceptions and accept no amendments to this God-ordained law. Our field will be measured by our capacity, our station by our talents, our reputation by our worth, and our success by our stability and force. In entering the realms of character-reading we must trample on the emblems of inactivity and with the axe of discrimination and truth hew to the line. Our precision is only fettered by our ignorance. The capabilities of Phrenology are as broad as the mind with which it has to do; its results as important as life itself. Upon us, individually and all, rests a magnitude of duty unequalled in any other sphere of human labor. Let us look forward, then, unflinchingly to the great ends which the All-wise Creator dedicated to the culture of the soul. Nor should we get weary and faint by the way. Phrenology is a healthy plant. For nearly a century it has withstood the inclemencies of a skeptical world, and now the aroma of its roses is inhaled by learned nostrils that dare not deny its presence and its worth. Its *universal* acceptance is only a question of time. Then let us be honest with humanity and with ourselves. Life is *too* short to indulge in idle vagaries and *too* valuable to be devoted to the aggrandizement of self. Let us never abuse our responsibilities. In the consciousness that we are right, let the *pinnacle* of knowledge be our aim, and when the boundary lines of the other country are made visible by death, let our deeds insure a passport, and our virtues embalm us in the memory of the people. We separate to labor in one common cause. Our *paths* diverge, yet radiate toward a common center. Then, in whatever field we labor, let us *strike* for the dignity of the science and the dissemination of its truths. For one, in my profession as a journalist, I shall exert my humble influence to open the door to the knowledge of mind and to the important truths which have been engrafted upon my memory by the able professors and teachers of the American Institute of Phrenology. I am confident you will all do likewise in your various avocations, and that the summer class of 1877 will be a *credit* to the science and to the Institution from which it derived its vitality and strength. May the Power that rules the destinies of the nations, be with you. God bless you all.

In conclusion, I acknowledge with gratitude the attention and kindness of our several instructors.

Our veteran teacher, Mr. Sizer, has labored earnestly and long, and with a spirit of disinterestedness as to selfish motives. He has pruned our crude ideas with the keenness of his judgment and bathed the wounds with the congeniality and temperance of his nature. His experience has been to us a great lesson. Let us profit thereby. From Mrs. Wells, Mr. Austin, Mr. Drayton, Mr. Turner, and others, we have received the most courteous attentions; and from those who acted in the capacity of teachers, the most sound instruction and advice. We shall ever regard them as our fraternal friends in the great work before us, and as our advisers in the difficulties that may overshadow our success. I earnestly desire the building up of the Phrenological Institute. It represents the center from which can emanate the truths of the science. To it is due, to a great extent, the perpetuity of sound phrenological doctrines. Then, fellow-students, as we scatter the fruits to a hungry world, let us *never forget the parent tree.* Au revoir.

Mr. Hilleary—TEACHERS: As I am about to separate from you now as instructors, I wish you to accept my thanks for the knowledge of Phrenology which has been received by me at your hands, and also its kindred sciences. I trust that I have, from your plain instructions and teaching, derived a knowledge which shall benefit me, whether I attempt to teach it or not. I trust that I have a knowledge of what Phrenology should be, and that I may practice its teachings.

FELLOW-STUDENTS: I hope that all of us, if we attempt to teach this science to others, may teach it as Phrenologists in the true sense—not in the general sense of that term; that is, let us live out and practice its teachings; and though we may not bring others to the same height, we may teach them the proper study of mankind.

Mr. Worrall—I am thankful I have learned so much of the science of Phrenology. In looking at the different sciences, I chose it as the most useful to mankind, and I believe it is true. We know how widely mankind differ, and Phrenology explains the cause. I hope, from what I have learned here, I may be able to do the subject justice in the way of teaching others, and follow its instructions myself.

I desire to return my sincere thanks to the teachers of the Institute, and rejoice that such a collection of specimens has been gathered for the benefit of the public which I have been permitted to study. I must say that I am grateful for the kind and earnest instructions I have received. To the students I would say I wish you all success, and bid you good-bye.

Mr. Staples—RESPECTED TEACHERS AND CLASSMATES: The farewell scene is ever one of sorrow, and the heart that feels no sadness while the lips speak the word *adieu* must, indeed, be cold. Whether the speaker has endeared himself to any during his stay at this Institution is not for him to say; but he does know that there are those among the Faculty and students whom he will not so n forget, and whose kindness, as manifested in a thousand ways, will ever call forth his gratitude and love. He will remember her whose labors in the phrenological world no man can measure, and whose name will be enshrined among those of the truly great, so long as appreciation shall endure. He will often call to mind the familiar face and fatherly care of him who has so often addressed us upon the various subjects relating to the theory and practice of Phrenology, and whose instructions should prove beneficial to each, by engendering in the soul more of the love for the beautiful and true, helping us to realize more the worth of the life which now is, while we fit ourselves for the enjoyment of the life which is to come, when these longings that find no perfect gratification amid the struggles of this mortal existence shall be satisfied in the full fruition of our fondest hopes. Though we may be familiar with books, there is a practical knowledge, a freemasonry, as it were, of the science, which we can only receive from the lips of the living; doubly precious when it is given by one who has grown gray and venerable in the work. We will not be unmindful of the thoughts which have been set forth by him who to-day is known as the editor of the PHRENOLOGICAL JOURNAL; and I trust that the historical pictures which he has drawn will remain upon our minds as bright incentives to noble action, while we strive to emulate the greatness of those who have identified themselves with this new and beautiful science, which brings to him who follows its teachings the inestimable boon of self-knowledge.

The lectures on Anatomy and Physiology have been full of interest, showing the instructor in this department to be most thoroughly versed in all the minutiæ of that science which he so happily expounds; nor will we lose sight of the useful suggestions received while being instructed in the beautiful art of elocution by one who has endeared himself to all. With all the thankfulness and esteem which your kindness and regard for me during my stay in New York has called forth, let me say to the Faculty of this Institute, as I leave to enter upon the field of labor, Farewell!

To you, my classmates, I have but a word to say. Let us not be content with meager attainments. Rather let us be all that we are capable of being in every noble sense; then shall our ambition be a constant incentive to further effort in the cause of right. If we are true to ourselves, to our fellows, and to our God, in the fullness of time we may meet together in our Father's blessed home above.

D. C. Catlin—TEACHERS AND FELLOW-STUDENTS: I do not regret having taken a course of instruction at this Institute, for I shall return home perfectly satisfied in regard to many things which I will not speak of here. I believe that Phrenology has been of some benefit to me in the past, and I have no doubt that it will be of still more service to me in the future. I do not find Phrenology to be at variance with the Gospel; on the contrary, I can hardly conceive how any one can be a true Christian without practicing the teachings of this science. It tells us *why* we should throw the mantle of charity over the misdeeds of our fellow-men, and teaches us *how* to do unto others as we would that they should do unto us. When nature's laws are recognized and obeyed as God's laws, then, and not till then, shall we be able to say that the millennium has come. To teach the people what are the laws which they must obey in order to live happily, and hasten the good time coming, is the great work which we, as phrenologists and philanthropists, have before us; and let us go forward and endeavor to perform that work in the name and spirit of Him "who went about doing good."

Mr. Winkler—The first I heard of Phrenology was in 1863, when I met with a price-list of works published by Fowler & Wells. I sent for some of the works, studied them, and became much interested in the subject, and became convinced of its great importance. I would advise all to study Phrenology. For fourteen years I have felt thankful for its instructions and its great benefit to me, and I hope to aid in extending it among the American people. I tender my sincere thanks, to all connected with the Institute, for the kindly interest shown me during my attendance.

Mr. Beall—It is not without regret that I realize this to be our closing day, for our relations have been of peculiar interest to me. The chief subject upon which we have been engaged has been for many years, in a certain sense, a part of my existence. I could not express to you how much I am indebted to Phrenology, but I have learned by bitter experience, as well as by study, the importance of self-knowledge; and I know that this is the only system of Mental Philosophy which can give self-knowledge, explain the wonderful phenomena of human mentality, and show the individual what he is, and which part he is fitted to play in the great drama of life. I think that the influence yet to be exerted upon human destiny by Phrenology will be deeper and far more extensive than has ever been supposed, even by its most ardent supporters. We acknowledge man to be the epitome of the universe, and mind the ultimate of man; hence, there can be but one step higher, namely, knowledge of God. The world does not yet appreciate this, but the day of final triumph must come.

To the instructors of the Institute, and to the members of the class, I desire to return my thanks for their uniform kindness to me, and to wish them the highest success in all their future efforts. I shall especially remember Prof. Sizer, not only for his elaborate exposition of Mental Science *per se*, but also for his valuable lessons drawn from the varied personal experiences and observations of more than half a century; and last, but not least, his genial, magnetic presence, and his humorous stories with which he has so often illuminated, as it were, the rusty skulls upon which we have been at work. I assure you of my sympathy with you all in the duties before us, and I sincerely hope that we may be true to our cause, and live to see it honored by all the world.

THE

American Institute of Phrenology

THE AUTUMN TERM WILL OPEN

Mr. Eadie—TEACHERS AND STUDENTS: I am deeply impressed with the importance of the principles which have been here expounded. We hold in our possession knowledge for the want of which thousands go blundering on, doubling their misfortunes and sorrows, and lessening their pleasures all the way down to the grave. We are now called upon to disseminate this knowledge; to put men in their proper places; to tell them how to establish right relations between themselves and their fellows; how to use the faculties God has given them for the ends for which they were created. This is a work worthy of the best efforts of any man. It is a work of practical benevolence. When the world begins to realize the truth of these principles; when its masses come to understand and practice them, there will be no further need of asylums, jails, and poor-houses.

We believe the science of Phrenology to be the true philosophy of mind, and as true philosophy is a revelation of the Divine Will manifested in creation, it is harmonious with all truth, and can not with impunity be neglected.

I trust that all who enter on this work may labor earnestly and conscientiously to discharge the duties and responsibilities they thereby assume.

RESOLUTIONS BY THE CLASS.

WHEREAS, We have attended the course of instruction of THE AMERICAN INSTITUTE OF PHRENOLOGY, and are in sympathy with that branch of science here taught, and any measures to promulgate the same. We desire to express our respect for its officers and lecturers, and thanks for the courteous treatment we have received at their hands.

Resolved, That we regard Prof. Nelson Sizer as an able advocate of the science of Phrenology. His lectures on the practical application of the science, and his able analysis of the human mind have been definite and concise.

Resolved, That the lectures of H. S. Drayton, A.M., on metaphysics, the former systems of mental philosophy, and the development of Phrenology, have been profound and comprehensive.

Resolved, That we are greatly indebted to Dr. N. B. Sizer for his very thorough lectures on anatomy and physiology, and dissection of the human brain.

Resolved, That we find in Mr. Austin a cultured elocutionist and a perfect gentleman.

Resolved, That we are specially indebted to Dr. Ordronaux for his able and instructive lectures on insanity.

Resolved, That the lectures of James B. Richards, A.M., on Idiocy and its treatment, deserve our earnest attention.

Resolved, That we return our thanks to Mr. Fishbough for his interesting lectures on Psychology.

Resolved, That we owe Mrs. Wells our sincere thanks for her cordial welcome extended to us, and her interesting reminiscences of the earlier advocates of the science in this country.

Resolved, That we tender our sincere thanks to S. R. Wells & Co. for their kindly interest in us, and recommend their commercial integrity to all who may have occasion to deal with them.

ANDREW B. EADIE .....Canada.
DAVID C. CATLIN.....Conn.
A. B. KEITH.....Iowa.
EDGAR C. BEALL.....Ohio.
LOUIS N. HILLEARY.....Iowa.
M. C. WORRALL.....Ohio.
ALFRED B. WALLACE....Tenn.
HENRY WINKLER.....Ind.
ERNEST L. STAPLES.....Conn.

FIELD NOTES.

MOST lecturers find it expedient to rest during the summer months in order to recuperate health and strength, and be ready for a vigorous campaign during the lecturing season. Phrenologists are somewhat an exception to this rule. Some of them continue their work right through the season, but many of them rest. We have, therefore, heard from but few since the issue of the last Supplement, and we give below a report of such as we call to mind. In a short time all will be in the field with the harness on, and have the best wishes of the managers of the AMERICAN INSTITUTE OF PHRENOLOGY.

Mr. L. C. Bateman has not been in the field during the past summer months, but has now commenced work, and writes us that he will spend the fall and winter in Maine, revisiting places where he has been before. No doubt Mr. Bateman will find this a pleasant and profitable method.

Mr. U. J. Hoffman has continued his connection with the Normal School at Valparaiso, and we shall expect, if he remains there during the coming season, that many teachers will receive a practical insight into Phrenology.

Mr. T. J. Wyscarver has been lecturing in Ohio during the summer months. We hope he may be encouraged to devote his whole time to Phrenology.

Mr. Duncan McDonald has spent the summer in Colorado lecturing some, but, we judge, spending a part of the time in caring for a juvenile partner, whom he announces has gone into business with him. Mr. and Mrs. McDonald will accept congratulations.

Mr. Howell B. Parker has been resting during his summer vacation, but has not been idle, for he has been talking up Phrenology wherever an opportunity presented itself. He re-opens his school, and is introducing some of our Phrenological works as text-books. We would there were more teachers who had the same interest in Phrenology that is evinced by Mr. Parker, practically and theoretically.

Mr. Thomas Clark continues his office at Paterson, New Jersey. He has also organized a Phrenological society or club. Meetings are held each week for the study and discussion of Phrenological questions and matters relating to kindred topics. He reports a good degree of interest as being expressed, and, no doubt, much good will come from this. We wish all Phrenologists, especially those who are located, would take steps to the formation of societies. The Paterson *Daily Press* speaks of Mr. Clark's arrangements for a public Phrenological examination of the heads of the prisoners of the county jail.

Mr. Ira L. Guilford has spent the summer in Michigan. We presume he will continue his labors there during the winter.

Mrs. E. P. Gause has been resting during the summer months with her friends in North Carolina. She undoubtedly will enter the field again this winter and make her influence felt.

Mr. Ralph Rogers has spent the summer in Tennessee and Kentucky. He finds this is a good field in which to work, and we hope he will continue there during the coming season. We do not know why he should seek other quarters.

Mrs. M. J. Holt has returned to Texas, her home, and we shall expect during the coming winter months to hear favorable reports from her there.

Rev. Geo. A. Lee has located in Guernsey Co., Ohio. He is preaching and indoctrinating the people with Phrenological ideas, and is also lecturing on temperance.

Mr. Levi Gaumer continues his studies, ordering whatever is new and instructive.

Dr. C. A. Beverly has been resting during the summer and working some in Wisconsin. The Milwaukee papers speak well of his efforts.

Mr. P. E. Ballou gave us a call early in the season, and has been lecturing in New York State and other places during his travels this summer.

Mr. L. Emerick has prepared himself for a vigorous fall and winter campaign. He writes us he is prepared to respond to invitations for single or course lectures. His address is Jacksonville, Illinois.

Mr. Matt. W. Alderson has lectured and practiced some, but has spent most of his time in studying and preparing for the field.

Mr. J. N. Hardy has been lecturing in Wisconsin. The Beaver Dam *Citizen* speaks commendingly of his lectures and examinations.

Mr. Levi Hummell is still lecturing in Pennsylvania and meeting with good success, when we consider the hard times that have prevailed in that part of the country. He proposes to go into Ohio.

Miss May Chapman is making her influence felt in Boston and vicinity in the interest of Phrenology and Physiology. We have seen recent reports of her lectures, especially in connection with the Ladies' Physiological Institute of Boston.

THE

American Institute of Phrenology

THE AUTUMN TERM WILL OPEN

October 6th, 1877.

PRICE OF TUITION REDUCED.

In consideration of the hard times, and with a desire to increase the number of students in attendance, the price of tuition is reduced for 1877 from $100 to $75, for one full term, including diploma. It is not decided to continue this reduction beyond the present year, and those who would take advantage of it should avail themselves of this opportunity.

THE COURSE OF INSTRUCTION

At each term is complete, consisting of about one hundred lectures and occupying six weeks of time.

This is the only institution of the kind in the world, where a thorough course of practical instruction is given, and nowhere else can be found the facilities which the AMERICAN INSTITUTE OF PHRENOLOGY possesses; consisting of a large Cabinet of Skulls, Busts, Casts, Anatomical Preparations, including Manikins, Skeletons, Plates, Models, etc.

THE AMERICAN INSTITUTE OF PHRENOLOGY was chartered by the Legislature of the State of New York in 1866, in order to establish permanently a school, in which the whole subject should be taught and students be qualified for giving public lectures and applying Phrenology professionally to choice of pursuits, domestic and scholastic education, and to all the phases of social and moral life.

THE AMERICAN INSTITUTE OF PHRENOLOGY proposes to teach students how to lecture and describe character on scientific principles; how to become practical phrenologists and delineators of character. The science needs more public advocates, and the world will gladly extend its respect and patronage to those who are qualified to deserve them.

Clergymen, physicians, lawyers, teachers, and business men not expecting to make Phrenology a profession should study it as a means of learning how to read character and how to understand, instruct, and manage those who come within their sphere of activity.

Among the topics treated in the course of instruction, the following will receive special attention:

Outlines of Anatomy, particularly of the Brain and Nervous System, and also of the Vital Organs; their office in the maintenance of bodily vigor and the proper support of the brain.

Physiology; its general laws; reciprocal influences of brain and body; the nervous system; respiration; circulation; digestion and assimilation; growth and decay of the body; air, exercise, sunlight, and sleep.

The Doctrine of Temperaments, as giving tone and peculiarity to mental manifestations, also as affecting the marriage relations, or what constitutes a proper combination of temperaments for parties entering into the marriage state, with reference to their own happiness, and also to the health, character, and longevity of their children. This branch of the subject will require several lectures and will be copiously illustrated.

Insanity, Idiocy, and perverted and abnormal mentality will be explained by eminent experts in those departments.

Food and Diet.—Nutrition, its laws and abuses: what food is best for persons of different temperaments and of the various pursuits What to eat and what to reject to become fat or lean, or to feed brain or muscle; influence of bodily condition as affecting mind and character; stimulants, their nature and abuse; alcoholic liquors, tea, coffee, spices, vinegar, tobacco, opium: their effects on the bodily conditions as affecting mind and health; what to avoid, and why.

Comparative Phrenology; the development and peculiarities of the animal kingdom; hints toward their gradation in the scale of being, from the lowest to the highest, including the facial angle, embodying some curious and interesting facts relative to the qualities and habits of animals, all tending to show that disposition is according to organization.

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Self-Protecting Group of Faculties, their location and how to judge of their size and influence in the economic and decorative phases of life.

Division between the Intellectual, Spiritual, and Animal Regions of the Brain; how to ascertain this in a living head.

Memory, how to Develop and Improve it; its nature, quality, and uses.

The Reasoning Faculties, and the part they play in civilization, and in the great developments and duties of human life. How to judge of the size of these organs, and how to cultivate them.

The Examination of Heads Explained; practical experiments; heads examined by each of the students, who will be thoroughly trained and instructed how to make examinations, privately and publicly. Special training in the examination of skulls.

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Deceptive Advertising.—This is the title of a strong editorial item in *The Sunday-school Times* on the subject of deceptive advertising in religious and other newspapers. The editor is especially severe in his criticism on the stand taken by the editors of religious papers in this matter, and we heartily join with him in his criticisms. When the newspapers and periodical publications in this country take the stand that has always been taken by THE PHRENOLOGICAL JOURNAL in the matter of their advertising department, their influence and their power for good will be greatly increased. Many of them now lend their columns to the most deceptive kind of advertising, especially that found in the patent medicine department. When celebrated quack doctors can advertise their nostrums in the reading-matter department, and occupying whole pages of religious newspapers whose editors know that the claims put forth by these men are falsehoods, how can they expect that evil results shall not come from the circulation of their papers, as well as good. Let the people rise in this matter. If the readers of the public press who do not believe in this way of doing business would write to the publishers of their respective papers, condemning their course, it would go a long way toward righting the matter. And if this will not do, refuse to take the papers that sell their space to advertising that which they know to be false or can not conscientiously indorse. One of the features of deceptive advertising to which the editor of *The Sunday-school Times* refers is that of the coupon system. One of these advertisements came into our columns through the want of proper criticism and care on our part; but since then we have declined hundreds of dollars worth, knowing that our readers would be deceived if they were published. We would consider it an especial favor if our readers at any time will inform us of their being imposed upon in their dealing with parties who advertise in THE PHRENOLOGICAL JOURNAL.

Oatmeal Crackers.—Nothing can be nicer than oatmeal crackers to take along on picnic excursions, if you succeed in getting a nice article. Mr. S. B. Clark, of 490 Grand Street, New York, makes some of the finest crackers we have ever tasted.

He also makes a real hygienic Graham cracker of superior excellence.

Owing to the rapid increase in his business, Mr. Clark has been compelled to enlarge his facilities, and is fitting up another building next door to his present place. We are pleased to note such evidences of prosperity at a period when most people are grumbling about "hard times."

Press Notes.—In a specific notice of the June number of THE PHRENOLOGICAL JOURNAL, the *New York South* says:

"The general contents of the present number—which contains a table of contents for the first six months of the year—are generally at once useful and interesting, and proof of the good work and good appreciation of this most useful and progressive of American monthlies."

"The JOURNAL improves as it advances in age, and is highly prized by a large number of readers."—*The Daily Eagle*, Brooklyn, N. Y.

Postage Stamps may be sent as payment for JOURNAL or Books, as they are more convenient to remit by mail, and we can use them in any business.

Benefit of an Examination.—Chicago, Ill., July 4th, 1877. S. R. WELLS & Co:—You may not remember me, but I shall never forget you nor your kind advice. About six months ago I sent you my photograph for analysis of character. I was then in a most wretched state of health, and desired your advice as to treatment. That advice and kindly encouragement has done me a great deal of good. I have continued to improve until my health may be considered firmly established. I have great faith in Phrenology, and that faith is being fortified by daily observation. L. R. M.

Pearl.—This bright little book is now meeting with a good sale, the first edition being nearly exhausted. It is greatly liked by all who read it, and is gaining new and increased reputation for the author of "The Self-Made Woman." It is just the thing for summer reading, and should be procured by all who have leisure and taste for light reading these sultry days. Sent by mail, post-paid, on receipt of price, 75 cents; in beautiful gilt and ink binding, $1.00. Full gilt edges. See advertisement.

Removal.—As will be seen from the address in Dr. Kidder's advertisement, he has removed his office from Fourth Avenue to 47 Lafayette Place. Dr. Kidder's apparatus is the one we offer as a premium to our agents for making up clubs to the JOURNAL. We believe it to be the most practical battery made. Price list will be sent by Dr. Kidder to any address on application.

Personal.

William H. Vanderbilt has established a library and reading-room at Albany, for the special benefit of the railroad employés.

Rev. William Aikman, D.D., author of "Life at Home," etc., was installed pastor of the Presbyterian church at Aurora, Cayuga Lake, on the evening of June 6, 1877.

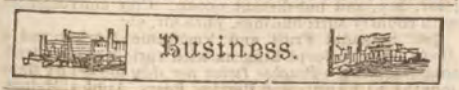
Prof. James Russell Lowell has been appointed American Minister to Spain. A well-considered appointment. Prof. Lowell has been granted a leave of absence by his college, Harvard, that he may enter upon his new field of duty.

M. de Quatrefages, the celebrated anti-Darwinist, has just completed a work on the human race and presented it in the French Academy of Moral and Political Science. M. de Quatrefages admits the great influence of hereditary and natural selection, but, like Morris Wagner, he will not admit them to be the greater factors in the propagation of species.

Prince Gortchakoff, the Russian Premier, is noted for his abstemious habits. He never drinks wine and never smokes. He eats but two meals a day. Retiring very early in the evening, he sleeps ten or twelve hours. His regular habits have kept his frame in such excellent condition that he does not feel the infirmities of old age at all. He was born in 1798, entered upon his diplomatic career under Count Nesselrode, and became the Foreign Minister of Russia at the close of the Crimean campaign.

Rev. John S. C. Abbott, D.D., whose decease has been expected almost daily for many months, died at his residence at Fair Haven, Conn., on Sunday last. He was born at Farrington, Me., in 1805, and graduated at Bowdoin College in 1825 in the same class with Henry W. Longfellow, Nathaniel Hawthorne, George B. Cheever, and Jonathan Cilley. He was ordained to the ministry of the Congregational Church in 1830, was settled at Worcester, and subsequently at Roxbury and Nantucket. Dr. Abbott early devoted himself to literary labor, but his earliest published work was "The Mother at Home," which appeared in 1833. His writings comprise a variety of subjects, and were prepared mainly for the young.

Ex-Governor Noyes, of Ohio, the new Minister to France, is a native of Massachusetts, and a graduate of Dartmouth. He went to Cincinnati when young, studied law, and practiced until the outbreak of the war, when he was among the first to enlist. He was made Major of the Thirty-ninth Ohio Infantry, served under Pope, and was in the attack on New Madrid. He was also in the battles at Corinth and Parker's Cross roads, and lost a leg in the Atlanta campaign. While in the army he was elected City Solicitor of Cincinnati, and in 1865 was elected Probate Judge, and received the commission of Brevet Brigadier-General. He was elected Governor of Ohio in 1871 over G. W. M'Cook.



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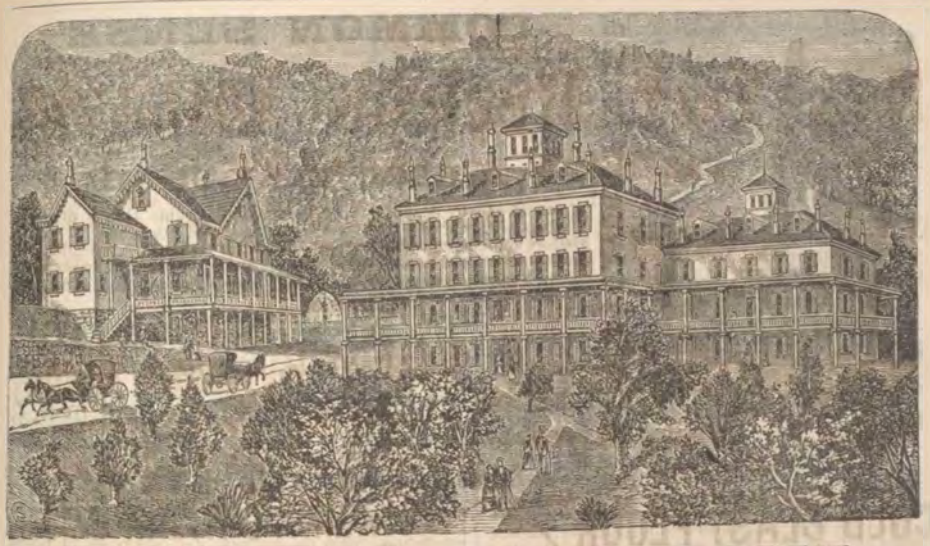
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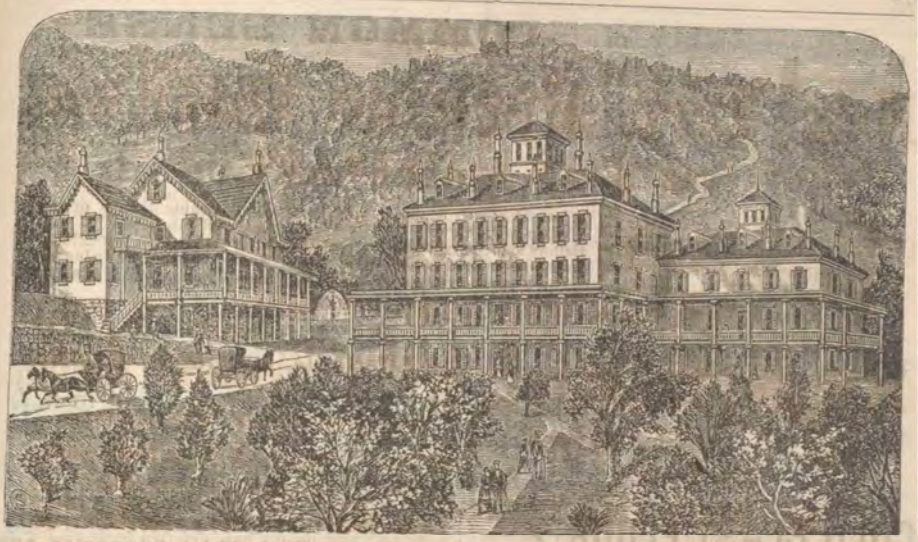
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Publishers' Department.

The business affairs pertaining to the publication and circulation of this Journal, and other miscellaneous and current matter, with advertisements, in general, are inserted in this department.

ANNOUNCEMENT.

The next number of this magazine will contain the portraits of the Rev. Joseph Cook, of Boston, and Hon. John Sherman, Secretary of the U. S. Treasury, with sketches and biographical notes; also interesting chapters of Peacemaker Grange; a letter in reply to the inquiries of "A Son in College;" The Structure and Care of the Teeth; Chapters VI. and VII. of Light in Dark Places; Further Recollections of a Practical Phrenologist, etc., etc.

An Author's Testimonial.—One of our correspondents, a lady well known to the readers of society magazines for her cheery, instructive talk on household topics, says of the PHRENOLOGICAL: "It improves yearly and is a PEARL among magazines. There is a poor man in Landoff, a terrible sufferer from scrofulous troubles, to whom I have lent bundles of the JOURNAL, and when he returned them he said: 'I tell you, Miss ——, that's a fust rate magazine, for it teaches you lots of things; and when I am in pain I lie down, and take one o' them books and it does me a great deal of good.' The old lawyer, Sq. P——, about whom I have told you, is now 84 years old, who always reads my magazines with great pleasure, says: 'THE JOURNAL is worth all the other magazines published.'"

A Bequest for the Institute.—We are informed by Mrs. E. P. Gause, a late student, and now lecturer and examiner, that Mrs. P. A. Perkins, of Pikeville, North Carolina, who died in June last, remembered the Phrenological Institute in her will, providing that the sum of two hundred dollars be paid into its treasury upon the settlement of her estate. The lady had but a few years before become interested in the work of the Institute, but had sufficiently examined it to appreciate the expediency of giving to it all the material support in her power. The trustees take this method of publishing their acknowledgment for help which is much needed in carrying on the educational department of the Institute.

Thankful.—A very grateful letter comes from an inmate of the Missouri Penitentiary, a too intelligent man, by his language and handwriting, to be a convict, yet he is one. He writes in acknowledgment of copies of the PHRENOLOGICAL, says that we alone of several publishers in New York to whom he appealed for mental pabulum, responded, some being "too poor," and others who send out religious matter being "too holy," he supposes, to consider the want of a criminal. Would that we had the ability to supply every public institution of the sort in the land with our publications.

PRESS OPINIONS.

"We have always looked upon the PHRENOLOGICAL JOURNAL as a work of great importance. In its special department—the reading of character by the development and comparison of heads—it has commanded the very highest respect. But the JOURNAL goes beyond Phrenology—its mission is more useful and extended. It deals with matter of a miscellaneous nature, especially with affairs pertaining to health."—*British Whig* (Canada).

"The table of contents embraces a number of very important subjects, with a variety which can not fail to both please and profit all. This is one of the freshest, brightest, and most readable of our American magazines."—*Central Methodist.*

"'Man, Know Thyself,' is the motto of this popular and widely-known magazine, and well does it fill its mission in giving to the general reader, in monthly installments, sufficient mental pabulum for wholesome digestion. As a guide and instructor in its line of literature it stands at the forefront, and those who fail to profit by its teachings and advice, must attribute it to their own carelessness, as many gems of knowledge are hidden in its pages for their extraction."—*Printers' Circular* (Philadelphia).

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"Its table of contents contains a more varied and practicable list of subjects, presented in a cultivated and intelligent style, than any other magazine that comes to us. It is useful and instructive to all classes of both sexes. Its pages in the May number, under the head 'Agricultural Hints' and 'Recipes,' is worth to the farmer and housewife a year's subscription alone. But the most important department is that wherein the 'Science of Health' is treated. Do our sick readers desire to regain their health? Do our well readers desire to keep well? Then we can not do them a greater service than to advise the attentive perusal of the columns of this valuable periodical."—*Wine Dealers' Gazette* (N. Y).

"THE PHRENOLOGICAL JOURNAL.—'Excelsior' appears to be the motto of both editors and publishers of this valuable periodical. We seldom take it up without liking it better, and never without learning something really useful. There is not a more useful journal published than the PHRENOLOGICAL, nor one more ably edited."—*New York Trade Reporter.*

The Emphatic Diaglott, containing the Original Greek Text of what is commonly styled the New Testament (according to the recension of Dr. J. J. Griesbach), with an interlineary word-for-word English translation. A new emphatic version, based on the interlineary translation, on the renderings of eminent critics, and on the various readings of the Vatican Manuscript, together with illustrative and explanatory foot notes and a copious selection of references, to the whole of which is added a valuable Alphabetical Appendix. By Benjamin Wilson. Published by S. R. WELLS & Co., New York. Price in cloth, $4; in extra binding, $5.

It is difficult to overestimate the value of this truly excellent work. As above stated, each Greek word has its own proper English synonym immediately under it, and thus the reader, without being a Greek scholar, can tolerably well see for himself the meaning of the original text. In addition to this the author occupies one-third of each page with a new translation, which in many particulars is most excellent. So much have we been interested in this part of the work, that we have gone through the whole of it, reading the old chapters of Scripture with a freshness that was truly surprising.

The alphabetical appendix is most complete. It comprises geographical and proper names, weights, measures, coins, precious stones, apostolic words and phrases, etc., contained in the books of the New Testament. The appendix covers nearly fifty closely-packed pages, and with type new and clear.

Says the author in his preface: "It is generally admitted by all critics that the authorized or common version of Scriptures absolutely needs revision. Obsolete words, uncouth phrases, bad grammar and punctuation, etc., all require alteration. But this is not all. There are errors of a more serious nature which need correction. The translators of the common version were circumscribed and trammelled by royal mandate; they were required to retain certain old ecclesiastical words, which were accordingly left untranslated. Thus the minds of many who had no means of knowing the meaning of the original words have been misled and confused. Biblical criticism, however, during the last two hundred years, has done much to open up and elucidate the word of God by discovering many things which were unknown to the old translators, making great improvements in the text," etc.

Taking the work as a whole we think it is invaluable to ministers, students, Sunday-school teachers, and all who would know more fully the beauties of the inspired volume.—*The Paragon.*

Book Premiums—Our book premium offers, which were extended to the first of September, will at that time be positively withdrawn, so that to secure the Premium Book, names must be sent in at once.

A Great Distribution.—We would call special attention to the advertisement headed as above, on another page. Our readers should take advantage of this opportunity.

A Rare Chance.—The attention of our readers is directed to the advertisement headed "A Premium for Everybody," on another page.

Died—Parish.—At Bloomingville, O., Wednesday morning, August 1, 1877, at four o'clock, Julia Parish, wife of William E. Parish, and stepdaughter of Prof. O. S. Fowler, formerly of New York City.

How to Paint.—*The Farmer's Magazine* says: "This is one of the most valuable and practical books we have had the pleasure of reading in a good while. A book that is calculated to be of great use and convenience to every householder of moderate means. One of the great problems with the great masses of the people at the present day is: 'how shall we, on our reduced income, keep up the beauty and attractiveness of our homes?' This book, by showing how much of the work of improving and ornamenting a home may be done at home, and at a small cost, does a great deal toward solving this problem. Written, as it is, by a practical painter, and a man of great experience, it possesses a value that could never belong to the work of a mere theorist. Moreover, it is written, not for the practical painter, but for the man who does not understand the art nor its technical terms. It puts into the hands of its readers the means of improving and beautifying their homes at a small cost, and with results at least nearly as satisfactory as if a professional painter had been employed.

Among the great variety of subjects that we find treated of in a plain, practical, comprehensible manner are: First, a general introduction concerning the material and tools required, general information concerning the usual cost of most work, directions for mixing and using Paints, preparing Putty, Milk Paint, Distemper Painting; directions for mixing and applying Kalsomine, Paint for fences, and out-buildings; Whitewashing, Paper-hanging, Graining and Staining, Imitation of wood or stone, Gilding, Transferring, Polishing, Waxing and Varnishing furniture, cleaning paint, cleaning marble, painting a farm wagon, revarnishing a carriage, making plaster casts, and other ornamental household work."

Personal.

Thomas Hughes calls attention to the fact that but for the woman who became his wife when he was an enthusiastic young man panting for adventure, Charles Kingsley would have come to America in the summer of 1839, and that when Kingsley looked across the Mississippi at Council Bluffs from Omaha, the eastern terminus of the Pacific Railway, the tears came to his eyes as he thanked God for his wife, and thought what might have been.

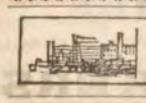
Friederich August Gottren Tholuck, for fifty years Professor of Oriental Literature in the University of Halle, Germany, died in that city on the 3d inst., at the age of seventy-seven. He was one of the first theologians of Europe, and an able writer.

Jared Whitman, of South Abington, Massachusetts, is the oldest living graduate of Brown University. He is of the class of 1806, and is ninety-two years old.

Mr. Bancroft, the historian, is a graduate of the class of 1817, of Harvard. Seventeen of his associates survive after 60 years out of college. Caleb Cushing, and Mayor Greene, of Cambridge, belonged to this class—the most remarkable for longevity in the catalogue. Fourteen dined together at the last commencement whose average age was 79.

Lord Stratford De Redcliffe, now eighty-nine, formerly for many years British Ambassador at Constantinople, has published an article on Turkey, in a late number of the *Nineteenth Century*.

Wm. Fullerton, a lawyer of New York, raises five tons of hay to the acre on the devastated and hoof-trampled soil of Southern Virginia.



Business.



Notice.—The Phrenological and Publishing Business heretofore conducted by the late S. R. WELLS (formerly Fowler & Wells), will be continued by his widow, Mrs. CHARLOTTE FOWLER WELLS, under the firm name of S. R. WELLS & Co. Correspondents, Agents, and others, when communicating on business matters connected with this office, should address their letters to

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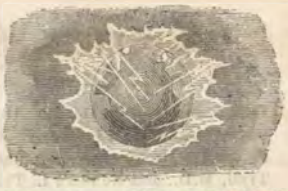
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Fifty Thousand Wanted.—We want fifty thousand new "TRIAL-TRIP" subscribers to THE PHRENOLOGICAL JOURNAL AND SCIENCE OF HEALTH for the next three months, and, if the proper efforts are put forth by our agents and our present readers, this will be accomplished, and it will result in a largely-increased list of subscribers for 1878. Will not every reader make an effort to send at least one dollar's worth of trial trip subscribers? Your friends will thank you for it, and we will thank you for it.

Prospectuses for 1878.—Our new prospectus for 1878 is now ready for distribution, and we solicit the interest of our present readers in giving this a wide circulation among their friends. Now that the price of the JOURNAL has been reduced, this should be made known by the distribution of circulars, that all may have an opportunity of subscribing. Persons connected with post-offices, stores, shops, mills, etc., have facilities for distributing these prospectuses, and if our friends will let us know how many of them can be used to advantage, they will be supplied at once by mail, post-paid. Now is the time to work for an increased circulation.

Our Premium-List for 1878.—On another page will be found our list of premiums for 1878. We have made a few changes, and some additions to the list may be made before the close of the year. The reduced price of the JOURNAL will render the making up of clubs much more easy than it often has been before, and our agent-friends, who have been successful in the past, should now work with renewed interest. Look over our list carefully, and no argument will be needed to convince you that our offers are more liberal than those usually made by other pubishers. It will pay every reader of the JOURNAL to make the endeavor necessary to the forming of a club, especially where there is not a large club already organized.

Important to Agents.—This number of the JOURNAL must begin with our agent-friends a new campaign, and this should be opened up earnestly and vigorously. No time should be lost, but agents should commence at once. To facilitate their efforts, the last three months of this year are offered FREE to new subscribers for 1878. This will be found a popular inducement, as subscribers will date their subscriptions with the year, and at the same time begin to receive their magazines at once, and is, of course, equivalent to a reduction of 25 per cent.; for fifteen numbers will be received instead of twelve, and the extra numbers are in the three-dollar form instead of the two-dollar. These numbers as a premium will be found more popular than cheap chromos or some article of fancy goods. Our new circular to agents has been mailed to those on our list. If any have failed to receive this, or if other readers are interested in receiving it, application should be made at once, and copies will be sent.

Wanted.—Our agent-friends are scattered in all parts of the country, and they have done a noble work for THE PHRENOLOGICAL JOURNAL AND SCIENCE OF HEALTH; but there is room for more, and in many neighborhoods in which there is not now a club for the JOURNAL, one might readily be formed by a little well-directed effort. What has been done in one place can be done in another, and the fact that we have large clubs in some places simply proves that agents can do well in other towns. We do not ask our friends to workfor nothing, fully believing that the laborer is worthy of his hire. Our terms are liberal, and our premium offers beyond comparison. Will not our present agent-friends and interested readers of the JOURNAL take an interest in extending our agencies, and see that there is a wide-awake, active person acting as agent in every neighborhood? Our premium list and other particulars will be sent on application.

Need of Good Literature.—One of our Western correspondents, in the course of a recent letter, makes allusion to the widespread ignorance of the people with regard to the common matters of duty, and adds: "But there are a few of us who are convinced that it is of more importance to understand and obey the natural laws of our being than to sing hallelujahs, while we bring ourselves through ignorance to an untimely end in hopes of a blessed immortality;" and also intimates a wish to "scatter literature that will set the people to thinking, and eventually cause them to act." Of course, we cordially agree with him.

Gems of Goldsmith is an elegant little volume of poems. It contains "The Traveler," "The Deserted Village," "The Hermit," and a biographical sketch of Goldsmith. These poems have long since taken rank among the classics of English literature and entered the very soul of humanity. None probably have been so universally read and none are more worthy to be read. "The Traveler" has been pronounced one of the first poems in the English language. "The Deserted Village" teems with tender and pathetic sentiment and touches of the finest humor; with high moral feeling; with noble and effective imagery; with portraitures of character that exhibit the conception of a genius and the hand of a master. This book is beautifully bound, well illustrated, and full gilt.—*York Co.* (Me.) *Independent.*

Heart Echoes (by Helen A. Manville).—This little volume contains a choice collection of poems which will afford all true lovers of poetry a rich feast of simple, plaintive melodies. This author's writings remind us of the Misses Cary, and all the readers of this paper must be familiar with their writings. We quote the following:

"Idler in the field of Life,
Is there nothing you can do?
When Sin cuts such mighty swathes
Is there no work left for you?
Up, I pray, and act your part
Bravely on Life's busy stage,
That your record, when 'tis done,
Bear no blot on any page."

There are upwards of a hundred poems in this book on various subjects suited to the wants of the readers. —*York Co.* (Me.) *Independent.*

Order your Clothing from New York.—For many years Mr. Geo. L. Burr, merchant clothier, of No. 140 Fulton Street, New York, has made the filling of orders from the country a special feature of his business. People in all parts of the United States, and even in Canada, have sent to him for suits with the most satisfactory results. His system of self-measure is so perfect that a misfit is well-nigh impossible. Besides having your clothing made up in the latest style and of the best material, there is a positive gain in dollars and cents by sending your orders to Mr. Burr. To every reader of the JOURNAL desiring to investigate the merits of his system who will mention where they saw his advertisement, he will send, *free*, his Book of Fashions, together with samples of goods and Rules for Self-Measure.

The Sunday-School Times.—A recent number of the *Sunday-School Times* announces that a change has taken place in its proprietorship; Mr. John Wanamaker, who has been connected with it for some time and pushed it with his money and energy, withdraws, leaving it in the hands of Mr. Trumbell and Mr. Wattlers, his associates. The *Times* is a good paper for the class for whom it is published and should have a wide circulation.

Given Away.—Read the offer of Mr. M. T. Richardson in another column, of a pretty pencil case to every three months' subscriber to his weekly 'IDLE HOURS."

Personal.

Mrs. Van Cott, the well-known revival preacher, has almost lost her voice, but is still conducting services.

Rebecca Anderson, of Seneca Falls, New York, is said to be one hundred and twelve years of age. She is so old, that it is over twenty-five years since a census-taker has had the pluck to ask her how old she is.

Governor Hartranft, it is said, while at the head of the troops in Pittsburgh preserving the peace, "wore a faded hickory shirt, and was without coat or vest."

Mr. Xenophon Munn, of Stowe, Vermont, who is fond of alliteration, has seven daughters, named Luceba, Lucretia, Lurana, Lucinda, Lucia, Lula, and Luna, and three sons, named Charles, Carroll, and Clarence.

Mr. Lewis Brooks died at Rochester on the 9th of August. A very benevolent man, he assisted many worthy undertakings in so quiet a manner, that it has only now come out that his benefactions amounted to more than $200,000.

Modeste Malhiot, of Quebec, aged sixty-eight, six feet, eight inches high, and weighing 618 pounds, died a few days ago; as did also Ruth Benton, of Wisconsin, aged fifty-four, seven feet, four inches high, and pulled down the beam at 585 pounds.

William B. Ogden, a prominent railroad man, and the first Mayor of Chicago, died on Friday at his residence, the Villa Boscobel, near High Bridge, in this city, in the seventy-third year of his age. By his business enterprise and sagacity in developing the West, he has been known as the "Pioneer of the North-west."

Business.

Notice.—The Phrenological and Publishing Business heretofore conducted by the late S. R. WELLS (formerly Fowler & Wells), will be continued by his widow, Mrs. CHARLOTTE FOWLER WELLS, under the firm name of S. R. WELLS & Co. Correspondents, Agents, and others, when communicating on business matters connected with this office, should address their letters to

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Housework.—Wanted for general housework, in a small, plain family, near New York, one who understands hygienic cookery. A willing, intelligent, and industrious person would have a permanent place and a good home. Address, giving experience, age, terms, etc., "Housekeeper," care PHRENOLOGICAL JOURNAL, 737 Broadway, New York.

To Our English Readers.—We desire to announce to our readers and friends in the British Provinces, that we will accept as payment for our publications English or other foreign postage stamps, at the rate of 4s. 6d. for a dollar's worth, and send our books by mail, post-paid, at prices given in our announcements and lists. This will, without doubt, be a great accommodation to many, as our books are not always to be found in the local book-stores. If a book advertised at $1.50 is desired, send 6s. in postage stamps, and for other books at proportionate rates, and they will be sent by return mail.

Saratoga Springs.—Drs. Strongs' Remedial Institute has Turkish, Russian, Sulphur, Hydropathic and Electrical Baths, Vacuum Treatment, Inhalation of Oxygen, Compressed and Rarefied Air, Health-Lift, etc., for the treatment of Nervous, Lung, Female, and other Chronic Diseases.

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BUSINESS CARDS.

Trall's Hygeian Home and Hygeio-Therapeutic College, Florence Hights, N. J. NEW YORK HYGIENIC INSTITUTE, 102 East 22d Street. R. T. Trall, M.D., and Rebecca L. Trall, M.D., Physicians.

Wm. White, M.D., author of Medical Electricity, Office, 143 W. 45th Street, gives treatment and instruction. Write for particulars.

Drs. S. W. & Mary Dodds, Hygeian Home, 2826 Washington Avenue, St. Louis, Mo. Send for circular.

Dr. Lyon's Hygeian Home at Springfield, Mo.

Dr. Glass's Hygeian Home, Hannibal, Mo.

Mrs. M. E. Stark, M.D. Home for Invalids. Canandaigua, N. Y. Send for Circular.

Hygienic Home, Jacksonville, Florida. Send stamp for circular. Address J. J. COURTNEY, M.D.

The Mountain Home. Send for our Circular. Address A. Smith, M.D., Wernersville, Berks Co., Pa.

Mrs. Helen J. Underwood, M.D., will receive patients and give them her personal attention at her home near Chicago. Blue Island, Ill., Box 94.

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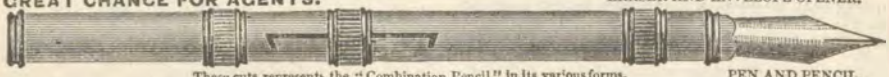
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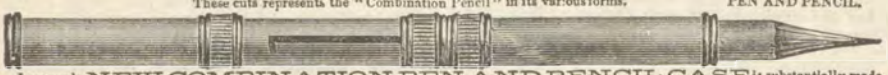
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Publishers' Department.

The business affairs pertaining to the publication and circulation of this Journal, and other miscellaneous and current matter, with advertisements, in general, are inserted in this department.

ANNOUNCEMENT.

Our next number, the December, will contain a sketch with portrait of Dr. Russell T. Trall, late deceased; a sketch of Dr. Noah Porter, President of Yale College; an illustrated article on Colored People; The Electric Pen; besides The Scientific Aspects of Phrenology; The Pacific Northwest; additional chapters of "Light in Dark Places;" "Ancient Cookery," etc., etc.

Canvass Now.—Our agent-friends and those interested in the JOURNAL should embrace the present time for canvassing. Leave prospectuses and show your specimen numbers, and urge on the people the value and importance of THE PHRENOLOGICAL JOURNAL AND SCIENCE OF HEALTH. You must certainly meet with success. This is a favorable time, because people have not yet subscribed for the reading-matter for 1878. And, also, because we are now offering the last three months of this year to new subscribers. Our premium offers are such as will enable all certainly to make it pay.

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Reading.—Let us take time for reading. It will never come if we wait to have every speck of dirt we see removed from every article. We can always find something else to do, and conscientious housekeepers with little taste for mental pursuits, are apt to make great blunders. "The life is more than meat, and the body more than raiment," which means that you yourself, with all your immortal faculties, are of vastly more importance than your household affairs. No kind of labor is degrading if done from a worthy motive, and no motive can be nobler than the womanly desire to make a pleasant home. But our home can not be properly attractive and profitable to our families if we ourselves are dull and harassed. It is necessary that good housekeepers should read and reflect, and listen and converse.—*Exchange.*

PRESS OPINIONS.

"THE PHRENOLOGICAL JOURNAL for September has just reached us. The mention of Phrenology recalls thoughts of an old acquaintance of ours, a bitter opponent of the science in its earlier development, who upon one occasion, after having, in a dogmatic manner, assailed our opinions and denounced the brain theory of Gall and Spurzheim, remarked, finally, upon parting from us: 'Oh, certainly, there is something in the shape of the head—something in the shape of the head—to be sure there is!' thus directly admitting all that we had claimed; and yet without intending to admit it, or knowing that he was so doing. Nature does nothing by halves, and if there is something in the shape of the head, there is everything in it. Logic is not the strong point of persons who at this day would cast discredit upon Phrenology, a science which every day's experience and every moment's observation demonstrates and supports."—*The Warren* (R. I.) *Gazette.*

"Two papers in this number (August) entitled respectively, 'Ventilation of School-houses,' and 'Obedience to Sanitary Laws,' are worth far more than the cost of a year's subscription to the magazine. It is the only work of the kind in the world, and is certainly a good work to take, containing, as it does, much useful information of a character not to be met with in any other publication."—*Journal of Progress.*

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Works by the Late R. T. Trall.—The recent death of R. T. Trall must give a new impetus to the sale of his works. There have never been published any works pertaining to health topics and hygiene which have had so wide a circulation as the works of this author. These books have been scattered broadcast among the English-reading people in all parts of the world, and have been reprinted in German and other foreign languages. On another page will be found a list of these, copies of which will be sent by mail, post-paid, to any address on receipt of price. Agents can do well canvassing for them. The present is certainly a most favorable time.

Easy-Chairs.—Now that the winter season is approaching, a season of rest from out-door activity, easy-chairs will be in demand. In many homes there are not enough of comfortable seats. An old-fashioned, straight-backed rocker, and, perhaps, a sewing-chair for the ladies' use, is all that will be found, while the poor men and the rest of the family have to sit on straight-backed wooden chairs but little better than benches. Every moment of time that is spent by an active person in sitting should be a moment of luxurious ease and rest, in which there will be an opportunity for recuperating strength and vigor. And in this connection we wish to recommend strongly the "Common-sense" chairs, made by Mr. F. A. Sinclair, at Mottville, Onondaga Co., N. Y. These are the most durable and best chairs for the money we have ever seen, being well made, of the best materials, at fair prices and in great variety. The Centennial Rocker is a special favorite, but it would be difficult to choose one that would not be. Mr. Sinclair publishes a neat illustrated descriptive price list, which will be sent free to every reader of THE PHRENOLOGICAL JOURNAL who will send address with stamp.

The New England Phrenological JOURNAL.—This was the name of a small publication, started a few months ago, by Irwin & Co., at Holyoke, Mass. Mr. Irwin was very earnestly interested in the subject of Phrenology, and took this as a means of extending the interest to others. After publishing several numbers, he does not find sufficient support for his little enterprise to justify its continuance, and the August number contains his valedictory. He says: "If we had directed our attention to the latest love-story or leading romance, and had printed advertisements of yellow-covered literature, our endeavors would, without the least doubt, have been crowned with success." No doubt this is true.

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Show the JOURNAL to your friends, and let them know what you desire to do, and we are certain they will help you, and get the worth of their money in the reading of THE PHRENOLOGICAL JOURNAL. So, boys, now is your chance.

What he Thinks.—Mr. E. A. N., a correspondent residing in Arkansas, writes: "I just received your books—a package of PHRENOLOGICAL JOURNALS—which you sent me. Please accept my most sincere thanks. Words fail to express the delight they afford me in perusing their contents. I shall start to-morrow to distribute some copies which I have, and hope to send you a good-sized club soon from the rural districts of Arkansas. I do not wish any premium for my services, unless I can get a large club, and then let it be a copy free for the pastor of the T—— Church, who is a strong advocate of Phrenology.

A Garden-Pump and Fire-Engine.—The "Dana Bickford Co.," of 689 Broadway, New York, manufacturers of the Dana Bickford Knitting Machine, have just introduced the most complete and perfect machine ever offered to the public for watering the garden and flowers, for washing windows, carriages, wagons, etc., and invaluable in case of a fire which, if taken at the start, a small quantity of water will be sufficient to prevent an entire loss of property; it works so easily and simply, that any child can use it, and water may be thrown over an area of from 60 to 80 feet. It may be drawn from a pail or through rubber tubing 100 or 200 feet long, or from a cistern. There is no piston, no stuffing box, no friction, no leakage, or any of the disagreeable contingencies found in connection with other suction and force pumps. We have tried them and know whereof we speak; besides, they are sold at the low price of $5.00. And to facilitate their more extensive introduction at once, we have been able to make arrangements by which we can offer one of these pumps for only four subscribers to the JOURNAL, at $2.00 each, and surely every owner of a house or garden can now procure one. Send on the subscribers, or we will send on receipt of price, $5.00.

Trall's Hygienic Institute.—As will be seen by the advertisement on another page, the Institute established in New York by Dr. Trall will be continued by those who were associated with him; Mrs. Trall, who has had many years experience, and who is an accomplished and experienced physician, remains in charge, and will be assisted in such departments as additional services are required. The house is pleasantly and centrally situated, and invalids will find it a pleasant home.

Crayon Portraits.—We would call the attention of our readers to the advertisement in another column of Miss L. E. Benton. We have seen some of her work, which was very commendable. Her conditions are certainly generous, and our readers will do well to give her a trial.

The Emphatic Diaglott: containing the Original Greek Text of the New Testament, with an Interlineary Translation on the renderings of Eminent Critics, Various Readings of the Vatican Manuscript, Explanatory Foot-Notes, Alphabetical Index, etc., etc. By Benjamin Wilson. Published by S. R. Wells & Co., New York. Price in cloth, $4.00. In extra binding, $5.00.

"The book can easily be sent by mail to any address. We suggest to every minister that he enclose his next $5.00 marriage fee to S. R. Wells & Co., 737 Broadway, New York, and secure this excellent work. It will prove a most profitable companion to every itinerant as he travels among the people."—*Methodist Recorder.*

Personal.

Henry M. Stanley, whose successful expedition in search of Dr. Livingstone awakened world-wide admiration, has achieved another triumph. Livingstone discovered the great river Lualaba, Cameron followed its course a certain distance, and geographers suspected its connection with the Congo; but it has remained for Stanley to establish beyond a doubt that the Lualabá and the Congo are one river. With a courage and endurance rarely equaled, this intrepid explorer followed the course of the great river to its mouth on the Atlantic coast, braving dangers that even Cameron shrank from.

Mr. Geo. Muller, the Englishman who has founded and sustained several orphan asylums for years, with the contributions received, as he alleges, simply and solely in answer to prayer, is now in the United States. "I have been going on now forty-seven years," he says in a published address, "simply dependent on the Lord for my necessities, both as pastor of the church and director of the institution to which I have given the greatest part of my time."

Thomas F. Field for many years a wholesale crockery merchant of this city, recently died at his residence, 88 Sixth Avenue, Brooklyn, at the advanced age of eighty-four years. Mr. Field was the oldest member of the crockery trade in New York, if not in the country, having been connected with it for nearly seventy years. He started in business in Utica, and in 1824 made the first direct importation of crockery ever carried over the Erie Canal.

Mr. Moses Rogers, or "Uncle Moses," as he is familiarly called, of Huntington, L. I., is ninety-six years old, and still superintends the operations of his farm, feeds his stock, and occasionally visits New York and other places to look after his vessel property, of which he is a large owner. An old gray head which has lived usefully!

Prof. J. J. Watson has inaugurated an enterprise having for its object the supply of good musical entertainments to the New York public, at the low price of ten cents for admission. Mr. Peter Cooper seconds the movement, as all advocates of popular education must. The entertainments, which are excellent, will be given weekly for a year.

Le Verrier, the great French astronomer, died on the 23d of September last, aged sixty-six years. His wonderful mathematical powers placed him in the foremost rank of science; and his famous demonstration of the existence of the planet Neptune won for him the highest honors from the scientific world years ago. Like Agassiz, he died poor.

Julia Colman has become the editor of *The Young Comrade*, an illustrated temperance paper, published at Rockland, Maine. So long as Miss Colman has charge of its columns, the temperance question will be discussed soundly and ably.

The principal prize in applied mechanics and mathematics at the University of London this year was taken by Miss Ellen M. Watson, who also won the Meyer de Rothschild scholarship, worth £50 per annum.

Dr. T. Goodwin, who attended or treated Mr. James Lick in his later periods of illness, has sued the estate of that moribund millionaire for $7,000, the estimated value (?) of his medical services.

Dr. Schliemann has been announced to come soon to America, but he will probably not come until he has finished the book which he is now writing on his discoveries in Greece.

J. C. Ayer, the celebrated pill manufacturer, is incurably insane, so have testified certain well-known doctors. Devotion to money-making is the cause of it.

Field Marshal Wrangler, of Germany, is ninety-four years old, and is in good health and vigor.

George Sand (Madame Dudevant), in the opinion of her doctor, died of strong coffee.

Business.

Notice —The Phrenological and Publishing Business heretofore conducted by the late S. R. WELLS (formerly Fowler & Wells), will be continued by his widow, Mrs. CHARLOTTE FOWLER WELLS, under the firm name of S. R. WELLS & Co. Correspondents, Agents, and others, when communicating on business matters connected with this office, should address their letters to

S. R. WELLS & Co., 737 Broadway, N. Y.

To Our English Readers.—We desire to announce to our readers and friends in the British Provinces, that we will accept as payment for our publications English or other foreign postage stamps, at the rate of 4s. 6d. for a dollar's worth, and send our books by mail, post-paid, at prices given in our announcements and lists. This will, without doubt, be a great accommodation to many, as our books are not always to be found in the local book-stores. If a book advertised at $1.50 is desired, send 6s. in postage stamps, and for other books at proportionate rates, and they will be sent by return mail.

Saratoga Springs.—Drs. Strongs' Remedial Institute has Turkish, Russian, Sulphur, Hydropathic and Electrical Baths, Vacuum Treatment, Inhalation of Oxygen, Compressed and Rarefied Air, Health-Lift, etc., for the treatment of Nervous, Lung, Female, and other Chronic Diseases.

Benefit of an Examination.—Chicago, Ill., July 4th, 1877. S. R. WELLS & Co:—You may not remember me, but I shall never forget you nor your kind advice. About six months ago I sent you my photograph for analysis of character. I was then in a most wretched state of health, and desired your advice as to treatment. That advice and kindly encouragement has done me a great deal of good. I have continued to improve until my health may be considered firmly established. I have great faith in Phrenology, and that faith is being fortified by daily observation. L. B. M.

The Mirror of the Mind gives full directions for the taking of pictures for examination as above, and copies will be sent by mail on receipt of stamp. Address S. R. WELLS & Co., 737 Broadway, New York.

Business Cards.

Trall's Hygeian Home, 102 East 22d Street, New York. Address Rebecca L. Trall, M.D.

Wm. White, M.D., author of Medical Electricity, Office, 143 W. 45th Street, gives treatment and instruction. Write for particulars.

Drs. S. W. & Mary Dodds, Hygeian Home, 2826 Washington Avenue, St. Louis, Mo. Send for circular.

Dr. Lyon's Hygeian Home at Springfield, Mo.

Hygienic Home, Jacksonville, Florida. Send stamp for circular. Address J. J. Courtney, M.D.

The Mountain Home. Send for our Circular. Address A. Smith, M.D., Wernersville, Berks Co., Pa.

Mrs. Helen J. Underwood, M.D., will receive patients and give them her personal attention at her home near Chicago. Blue Island, Ill., Box 94.

Healds' Hygeian Home, Wilmington, Delaware. See advertisement. Send for circular. Pusey and Mary H. Heald, Physicians.

The Elmira Water-Cure presents the most approved means for the treatment of chronic invalids. Address Drs. Gleason & Wales, Elmira, N.Y.

Bullard's Hygienic Home, Schuylerville, Saratoga Co., New York. Send stamp for circular.

The Wesley Water-Cure. Dr. F. W. Hurd's Highland Hygeian Home, near Del. Water Gap, Pa. Send for Circular. All inquiries answered cheerfully.

J. A. Tenney, M.D., Hygienic Physician, 74 Dover Street, Boston. Attends calls from a distance.

Pamphlet Binding. — S. T. MILLS, numbers 14 and 16 Vesey Street, New York, binds this Magazine.

Printer and Stereotyper.—Edward O. Jenkins, Steam Book and Job Printer, and Stereotyper, No. 20 North William Street, New York.

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"Swedish Movements" thoroughly and conscientiously administered—one-half hour's manipulation of each patient daily by the operator. ☞ Improved Hot-Air and Steam-Bath apparatus, in which the head is not exposed to the heat and impure exhalations from the body, and is kept cool by a constant gentle spray or douche. All judicious Water-Baths and Sun-Baths. Social and intellectual pleasures. Steamboat and other excursions. One hour from Philadelphia with its great "International Permanent Exhibition."

The physicians have treated several thousands of invalids successfully, without medicines, during the past seventeen years. Young Men will find in Dr. P. Heald a valuable counselor and friend, and Dr. Mary H. Heald's experience and successful treatment of *invalid women*, from nearly every State in the Union, is a guarantee that the sick will receive at her hands the medical care and sympathy they require. House heated *throughout* by steam in Winter, and *thoroughly ventilated*. Send stamp for Circular to

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TRALL'S HYGIENIC INSTITUTE,

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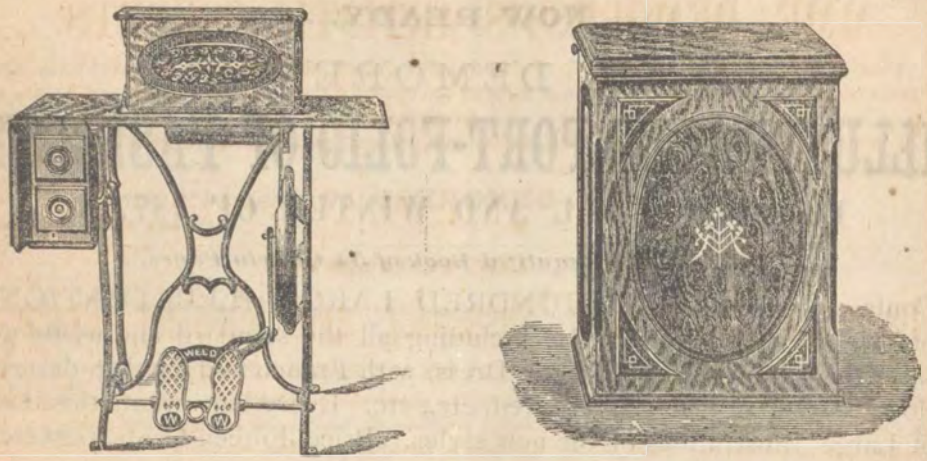
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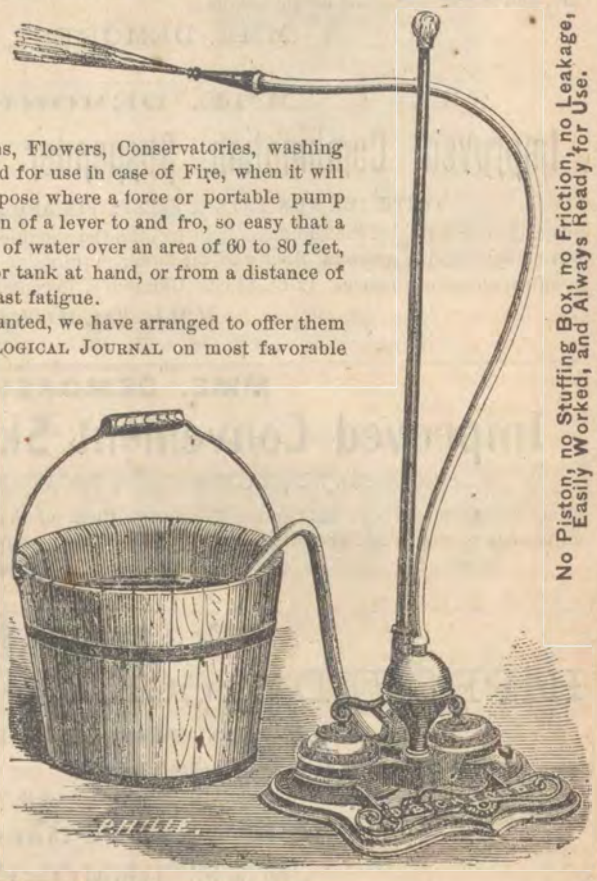
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1878.—This number of THE PHRENOLOGICAL JOURNAL AND SCIENCE OF HEALTH closes its publication for the year 1877, and the next number is that of January, 1878. As has already been announced, we have decided on a very important change in the publication and management of the PHRENOLOGICAL for the coming year; that is, the price is to be reduced from $3.00 to $2.00 a year. This is done in view of the continued stringency in money matters, although we believe the worst is passed and that from this time forward renewed activity and prosperity will take the place of stagnation; but desiring to extend as much as possible the circulation of the JOURNAL, and through this a knowledge of Phrenology among the people, we have decided to reduce the price. This will, of course, necessitate some change in the JOURNAL itself, but the size will not be reduced in proportion to the reduction in price, and the quality will, in every way, be fully maintained. Our agent-friends have been met many times with the response: "I can not afford it." "I like the JOURNAL, but times are too hard." "Money is too scarce." "Wait till next year," etc.; but this can not be the case now. With a journal so useful and practical as the PHRENOLOGICAL, offered at $2.00 a year, certainly there should be no excuse for not subscribing. We depend on our present subscribers to make known to the public the fact that the price has been reduced, and trust we may have their co-operation in such way as to accomplish the end we had in view in making the reduction, that is, to greatly extend its circulation.

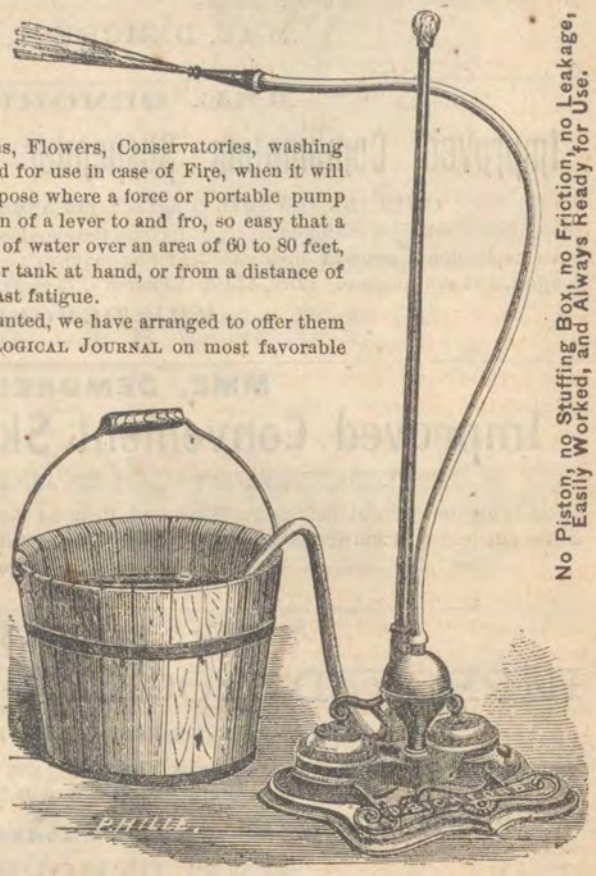
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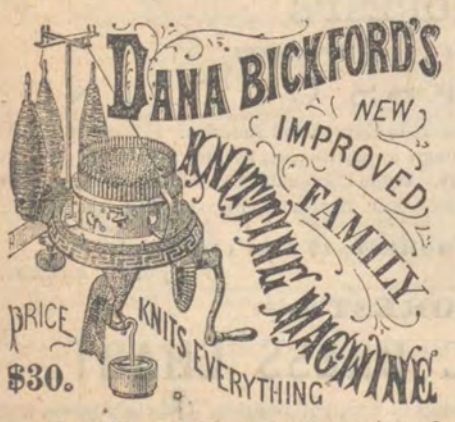


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Among the features of interest to readers of THE PHRENOLOGICAL JOURNAL AND SCIENCE OF HEALTH for 1878, the following will have prominence: A series of papers descriptive and analytical of Phrenological science, with appropriate illustrations; continuation of the story entitled "Light in Dark Places," with its excellent practical suggestions on mental culture and physiology; "My Home Kindergarten," a narrative to run through several numbers, in which principles of child education will be illustrated; valuable treatises from the best German, French and other sources on topics in practical physiology, therapeutics, hygiene, etc.—these will be illustrated in most instances; two or more biographical sketches of conspicuous persons with the customary phrenological notes, and portraits will be presented in each number; correspondence, scientific and social, from different parts of the world; a succinct review of the more noteworthy incidents in the progress of science and invention; discussions of topics in psychology, moral philosophy, socialism, government; domestic economy, including advice with reference to diet and healthful cookery.

It will be the aim of publishers and editor to make each number of special practical value to the subscriber, and worthy of careful preservation. It has been said that one never sees old copies of THE PHRENOLOGICAL JOURNAL for sale at the second-hand book dealers, as is the case with most of the other magazines; but that they are kept after a reading by subscribers and purchasers for future reference. In short, the object for which the PHRENOLOGICAL was originally, and still is, published is not ephemeral gratification, but permanent utility, through a reasonable gratification of the curious and esthetic qualities of the mind.

1878.—This number of THE PHRENOLOGICAL JOURNAL AND SCIENCE OF HEALTH closes its publication for the year 1877, and the next number is that of January, 1878. As has already been announced, we have decided on a very important change in the publication and management of the PHRENOLOGICAL for the coming year; that is, the price is to be reduced from $3.00 to $2.00 a year. This is done in view of the continued stringency in money matters, although we believe the worst is passed and that from this time forward renewed activity and prosperity will take the place of stagnation; but desiring to extend as much as possible the circulation of the JOURNAL, and through this a knowledge of Phrenology among the people, we have decided to reduce the price. This will, of course, necessitate some change in the JOURNAL itself, but the size will not be reduced in proportion to the reduction in price, and the quality will, in every way, be fully maintained. Our agent-friends have been met many times with the response: "I can not afford it." "I like the JOURNAL, but times are too hard." "Money is too scarce." "Wait till next year," etc.; but this can not be the case now. With a journal so useful and practical as the PHRENOLOGICAL, offered at $2.00 a year, certainly there should be no excuse for not subscribing. We depend on our present subscribers to make known to the public the fact that the price has been reduced, and trust we may have their co-operation in such way as to accomplish the end we had in view in making the reduction, that is, to greatly extend its circulation.

Club Rates.—There are, in many parts of the country, warm and earnest friends of Phrenology who would like to make up clubs in their respective neighborhoods for the JOURNAL, giving to the subscribers the full benefit of the reduction accorded to them. To meet such cases, we have decided to offer ten copies of the PHRENOLOGICAL for one year, sending to as many different post-office addresses as may be desired, at $1.50 each; and as, at least, part compensation to our friends for making up clubs, we will give an extra copy to the person sending in the list of names. Will not some present reader in every town where there is not a local agent, make an effort now to make up a club for the coming year? A little well-directed effort will secure a good list of names.

Renew Promptly.—The publishers would especially urge on the readers of THE PHRENOLOGICAL JOURNAL the importance of promptly renewing their subscriptions for the coming year. It saves to the office much trouble and inconvenience in making up the new books, besides securing to the subscriber an early and prompt delivery of the first numbers of the new year. As a slight remuneration for promptness, we propose to send our new Health Almanac and Annual of Phrenology for 1878 to all who renew before the first of January, sending stamp for postage.

Holiday Presents.—The season for holiday presents is again approaching. People are now wondering what they can choose and procure as presents for their friends. We will suggest, first, that THE PHRENOLOGICAL JOURNAL itself will be a most acceptable present to any appreciative friend; besides, it will be a continual present, bringing the holidays twelve times a year. There are few articles more appropriate under nearly every circumstance than useful books. Nothing that will be so constant and pleasant a reminder of the giver as a good book. There is also an opportunity of varied selections, books for all classes, old and young. The readers of THE PHRENOLOGICAL JOURNAL are referred to our lists of publications which have appeared from time to time in the magazine, and they will find there an opportunity of making varied selections. It is not worth our while to name them specially; each person will be able to choose from the titles that which will be appropriate under any given circumstance. We would also call attention to our PREMIUM LIST as affording an admirable opportunity for procuring a suitable holiday present. Here is almost everything which can be desired; books, silver-ware, microscopes, etc. In these hard times this may afford to many an opportunity of making a valuable present to an esteemed friend without the heavy expense which would come from its purchase. Simply a little well-directed effort now and you will succeed. For full description of the varied articles offered send stamp for our large illustrated PREMIUM LIST.

Our New Premium List and Terms TO AGENTS.—We have just issued a new descriptive list of our Premiums. This consists of sixteen pages, handsomely printed and containing a full description of each of the articles offered, with many illustrations. These have already been sent to the address of persons who are entered on our agency book, and will be sent to any others who may desire them. With the JOURNAL at the reduced price, agents should find but little difficulty in making up desired lists of names.

PRESS OPINIONS.

"The magazine has an abundance of scientific and general information, and there is no periodical of the day which we would rather possess. Its mechanical execution is also excellent."—Warren (R. I.) *Gazette.*

"It is impossible to give the reader a fair idea of this extensive and interesting periodical in a newspaper notice; containing, as it does, such a vast amount of sound, instructive reading-matter on so many subjects of interest to the general reader. The letterpress is most unexceptionable, and is beautifully illustrated with portraits of the current characters whose biographies adorn its pages."—Ontario (Can.) *Advertiser.*

"It contains many facts in regard to the cultivation and expansion of the mind, as well as much valuable instruction in regard to the attainment and preservation of health of both mind and body. It is a large monthly, full of good and valuable information."—Hopkinsville (Ky.) *Democrat.*

"This is one of our most esteemed exchanges. It contains much reliable and instructive matter, and is well worth its subscription price."—Genesee (Penn.) *Democrat.*

"This splendid pictorial magazine and first-class monthly journal, devoted to all progressive measures calculated to reform, elevate, and improve mankind, should be in every home in the land. Its contents are always replete with good things."—Breckenridge (Ky.) *News.*

"We have read the JOURNAL since 1867, and deem it the best friend a young man can have—his surest guide to success, if he will only mind its teachings."—North Wales (Pa.) *Record.*

CLUBBING FOR 1878.

For the accommodation of our readers and friends, we have made arrangements for the combining of other publications with our popular and useful magazine as follows: The subscription price of the PHRENOLOGICAL JOURNAL AND SCIENCE OF HEALTH is $2; and any of the following may be included at the prices given:

Littell's Living Age..	$7 00	Peterson's Lady's Mag	1 60
Eclectic Magazine...	4 25	Weekly Tribune.....	1 60
Galaxy.....	3 50	" Times.....	1 20
Atlantic Monthly....	3 50	" World.....	1 00
Appleton's Journal..	2 50	The Nursery.....	1 20
Lippincott's Mag....	3 25	Western Rural.....	1 75
Harper's Monthly....	3 50	Young Folks mo.....	1 10
" Weekly.....	3 50	Country Gentleman..	2 25
" Bazar.....	3 50	Floral Cabinet.....	1 15
Scribner's Monthly...	3 40	Prairie Farmer.....	1 75
St. Nicholas.....	2 50	The Christian Union.	2 70
Popular Sci. Monthly.	4 25	Christian at Work....	2 50
Godey's Lady's Book.	2 50	Boston Weekly Globe	1 40
Arthur's Home Mag...	2 25	Illus. Christ'n Weekly	2 25
Rural New Yorker..	2 25	American Grocer.. ..	2 25
Scientific American..	2 75	Evening Post.....	1 25
Demorest's Magazine.	2 50	Poultry World.....	1 00
Home Journal	2 25	Gardeners Monthly ..	1 75
The Methodist.....	2 25	Christian Intelligencer	2 50

The only condition for obtaining the above reduction is that the person ordering shall subscribe for the PHRENOLOGICAL JOURNAL AND SCIENCE OF HEALTH, then any number of the above publications may be ordered. Make up your list and send on the amount, saving time, money, risk, and trouble. Address all orders to S. R. WELLS & Co., Publishers, 737 Broadway, New York.

The Health Almanac for 1878.—This is now looked upon as a household necessity in many families, and to cease its publication would be a great disappointment. Its circulation is constantly increasing. The number for 1878 is an excellent one in every particular, filled with useful matter and timely suggestions. The price is only ten cents, and supplied to our friends who desire it for distribution at the rate of seventy-five cents per dozen copies. It is hoped every reader of THE PHRENOLOGICAL JOURNAL will endeavor, as far as it is possible, to put this Health Almanac in the place of the many patent medicine almanacs throughout the country. It is a good missionary document, and we trust those interested in the cause will aid in its circulation.

The evenings are getting long. Summer, with its tropical nights, no longer necessitates sleeping in the woodshed or in hidden recesses where the mosquitoes dare not molest or make afraid. And with long, cool evenings comes the desire for recreation. To gratify this desire no family should be without a magazine filled with useful and instructive reading-matter. We receive many such magazines at this office, among which THE PHRENOLOGICAL JOURNAL is, in our estimation, by far the most useful and instructive. It contains no literary vapors, no silly twaddle, no nonsensical speculations, but is brimfull of sound, solid, practical advice, intermingled with scientific deductions and well-authenticated facts. It is impossible to enumerate here all the subjects handled in this magazine: suffice it to say, it should be warmly received in every household."—*Crawford Co.* (Iowa) *Bulletin.*

"Why Mar the Image?"—We regret that the publication of this promising serial was so abruptly suspended by the severe illness of the writer, Mrs. Duniway, who has not been able to continue it since. The conclusion of Peacemaker Grange is reached in this number, as the reader is probably aware,

Worcester's Quarto Dictionary.—A large, handsome volume of 1,854 pages, containing considerable more than 100,000 words in its vocabulary, with the correct Pronunciation, Definition, and Etymology, fully illustrated. Library sheep, marble edges. Price, $10.00. J. B. Lippincott & Co., Publishers, Philadelphia, Pa.

This series of Dictionaries are now rapidly growing in favor and are being introduced and accepted as standard in many educational institutions, publishing offices, etc., and by eminent scholars. *The Evening Post*, in a recent notice, says:

"It is known that Worcester's has long been considered the standard dictionary of the English language by such eminent philologists as Marsh, such scientists as Agassiz, such poets as Longfellow, such statesmen as Sumner, such educators as Mann; and that its spelling is the standard of the National Printing Office at Washington. It follows from this with unerring accuracy that Worcester's Dictionary, being preferred over all others by scholars and men of letters, should be used by the youth of the country and adopted in the common schools."

The Annual of Phrenology and Health Almanac for 1878 will contain, among its list of subjects, the historian and diplomat, John L. Motley; Dr. Russell T. Trall, the eminent hygienist; Spectacles—how to Choose and Wear them, with numerous illustrations; Faces and their Influence; President Hayes, with a phrenological sketch by Prof. L. N. Fowler; Some Counsel to Boys about Business, by James Parton; besides poetry, advice with reference to the care of the health, the treatment of different maladies, recipes for preparing healthful food, hints to the housekeeper and farmer, etc., etc. Price, ten cents.

Personal.

Mr. Erastus Brooks has retired from the editorship of the New York *Express*, after forty years of newspaper work.

Rev. Anna Oliver is settled as pastor of a church at Danville, N. Y.

Prof. G. Morris, the Phrenologist, is well reported of by the western newspapers, and appears to be making a success of his extensive tour.

Dr. Benjamin Walworth, of Fredonia, New York, a brother of Chancellor Walworth, is the oldest practicing physician in the State. He was born in 1792, and is still actively engaged in feeling pulses and looking at tongues.

P. T. Barnum is reported as saying: "I have seen a good many people humbugged during my life, and I have been humbugged myself, but I have noticed that more persons, on the whole, are humbugged by believing in nothing than in believing in too much."

Richard M. Bishop, of Cincinnati, was elected Governor of Ohio at the late election, by 20,000 majority. The Democrats made a good selection in Mr. Bishop. There were five tickets in the field, the others being the Republican, Prohibition, National, and Workingmen's.

Mrs. Maria B. Holyoke, "Lecturer and Organizer" of the State Temperance Union, shows a record of a year's work which will compare favorably with any man lecturer's, we think. During the year she has delivered 215 lectures and addresses at different points, necessitating 12,400 miles of travel.

Mr. Delane has retired from the editorial management of the London *Times*, a position which he has held for thirty-seven years. "And he really edited it. His control," says Mr. Smalley, "was complete; while his supervision of its leader columns was so vigilant, his editorial direction of the paper so absolute, that it was his individual opinion which went forth every morning. He did not write, but dictated what should be written."

Oliver Perry Morton, Senator of the United States, died November 1st, at his residence in Indianapolis. Several years ago he was prostrated by a stroke of paralysis, induced by severe labors and anxieties during the war while he was Governor of Indiana, and rest and foreign travel failed to restore his health.

Business.

Notice—The Phrenological and Publishing Business heretofore conducted by the late S. R. Wells (formerly Fowler & Wells), will be continued by his widow, Mrs. Charlotte Fowler Wells, under the firm name of S. R. Wells & Co. Correspondents, Agents, and others, when communicating on business matters connected with this office, should address their letters to

S. R. Wells & Co., 737 Broadway, N. Y.

To Our English Readers.—We desire to announce to our readers and friends in the British Provinces, that we will accept as payment for our publications English or other foreign postage stamps, at the rate of 4s. 6d. for a dollar's worth, and send our books by mail, post-paid, at prices given in our announcements and lists. This will, without doubt, be a great accommodation to many, as our books are not always to be found in the local book-stores. If a book advertised at $1.50 is desired, send 6s. in postage stamps, and for other books at proportionate rates, and they will be sent by return mail.

Saratoga Springs.—Drs. Strongs' Remedial Institute has Turkish, Russian, Sulphur, Hydropathic and Electrical Baths, Vacuum Treatment, Inhalation of Oxygen, Compressed and Rarefied Air, Health-Lift, etc., for the treatment of Nervous, Lung, Female, and other Chronic Diseases.

Benefit of an Examination.—Chicago, Ill., July 4th, 1877. S. R. Wells & Co:—You may not remember me, but I shall never forget you nor your kind advice. About six months ago I sent you my photograph for analysis of character. I was then in a most wretched state of health, and desired your advice as to treatment. That advice and kindly encouragement has done me a great deal of good. I have continued to improve until my health may be considered firmly established. I have great faith in Phrenology, and that faith is being fortified by daily observation. L. B. M.

BUSINESS CARDS.

Trall's Hygienic Institute. 100 East 26th St., New York. Address Rebecca L. Trall, M.D.

Wm. White, M.D., author of Medical Electricity, Office, 143 W. 45th Street, gives treatment and instruction. Write for particulars.

Drs. S. W. & Mary Dodds, Hygeian Home, 2826 Washington Avenue, St. Louis, Mo. Send for circular.

Movement Cure and Hygeian Home, No. 537 Broadway, Quincy, Ill. Thos. H. Trine, M.D., M. Augusta Fairchild, M.D., Physicians. Z. P. Glass, M.D., Proprietor and Consulting Physician.

Dr. Lyon's Hygeian Home at Springfield, Mo.

Hygienic Home, Jacksonville, Florida. Send stamp for circular. Address J. J. COURTNEY, M.D.

The Mountain Home. Send for our Circular. Address A. Smith, M.D., Wernersville, Berks Co., Pa.

Mrs. Helen J. Underwood, M.D., will receive patients and give them her personal attention at her home near Chicago. Blue Island, Ill., Box 94.

Healds' Hygeian Home, Wilmington, Delaware. See advertisement. Send for circular. PUSEY and MARY H. HEALD, Physicians.

The Elmira Water-Cure presents the most approved means for the treatment of chronic invalids. Address Drs. GLEASON & WALES, Elmira, N.Y.

Bullard's Hygienic Home, Schuylerville, Saratoga Co., New York. Send stamp for circular.

The Wesley Water-Cure. Dr. F. W. Hurd's Highland Hygeian Home, near Del. Water Gap, Pa. Send for Circular. All inquiries answered cheerfully.

J. A. Tenney, M.D., Hygienic Physician, 74 Dover Street, Boston. Attends calls from a distance.

Pamphlet Binding. — S. T. MILLS, numbers 14 and 16 Vesey Street, New York, binds this Magazine.

Printer and Stereotyper.—EDWARD O. JENKINS, Steam Book and Job Printer, and Stereotyper, No. 20 North William Street, New York.

RATES FOR ADVERTISING.

One Full Page	$75.00
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Advertisements must be sent in by the first of the month, to be in time for the month following. No extra charge for inserting cuts. No objectionable advertisements accepted at any price.

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Explains the success and failures of the Water-Cure, the Diet-Cure, the Rest-Cure, the Movement-Cure, the Sunlight-Cure, etc., and embraces all that is valuable out of each of these. Our "Outlines of a Common-sense System," 48 pages, sent free, and our "Hygienic Treatment," a new and revised edition, greatly enlarged, 80 pages, only 20 cents, explains this most successful of all systems. Send and get them. Address

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Secures Health and Comfort of Body, with Grace and Beauty of Form. Three Garments in one. Approved by all physicians. Agents Wanted. Samples by mail, in London cord, $2; Satteen, $1.75. To agents at 25 cents less. Order size two inches smaller than waist measure over the dress.

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It is decidedly the cheapest and best preparation known for making Griddle Cakes, Wheat Cakes, or Pan Cakes; Muffins, Fritters, etc.: producing at a moment's notice, by the addition only of cold water or milk, most delicious, light, and wholesome cakes, which may be eaten while hot without detriment.

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STAMMERERS and all interested in speech impediments—send for circulars. The Am. Vi. Institute, 163 Waverly Place, N. Y.

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Devoted to the Good, the True, and the Beautiful in Home and Social Life. Two Serial Stories will be commenced in January number, "**His Dear Little Wife,**" by T. S. Arthur; and "**The Word of a Woman, and how she Kept it,**" by Virginia F. Townsend. Price reduced to $2.25 a year; Clubs at still lower rates. **Butterick's** newest patterns for Ladies' and Children's Dresses in every number. Specimen number, 10 cents. T. S. ARTHUR & SON, PHILADELPHIA.

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Established in New York a few months since by the late R. T. TRALL, M.D., has been removed to 100 East 26th Street, and will be continued in all its departments by the undersigned, who has been for many years actively engaged in the work with Dr. Trall. The services of other competent physicians have been secured, and we are prepared to treat all cases with the best of Hygienic Agencies. All friends of the system are invited to call, and strangers visiting New York will find here good accommodations, with hygienic diet and baths. Send for circulars. Address **REBECCA L. TRALL, M.D., 100 East 26th St., New York.**

OUR HOME HYGIENIC INSTITUTE,

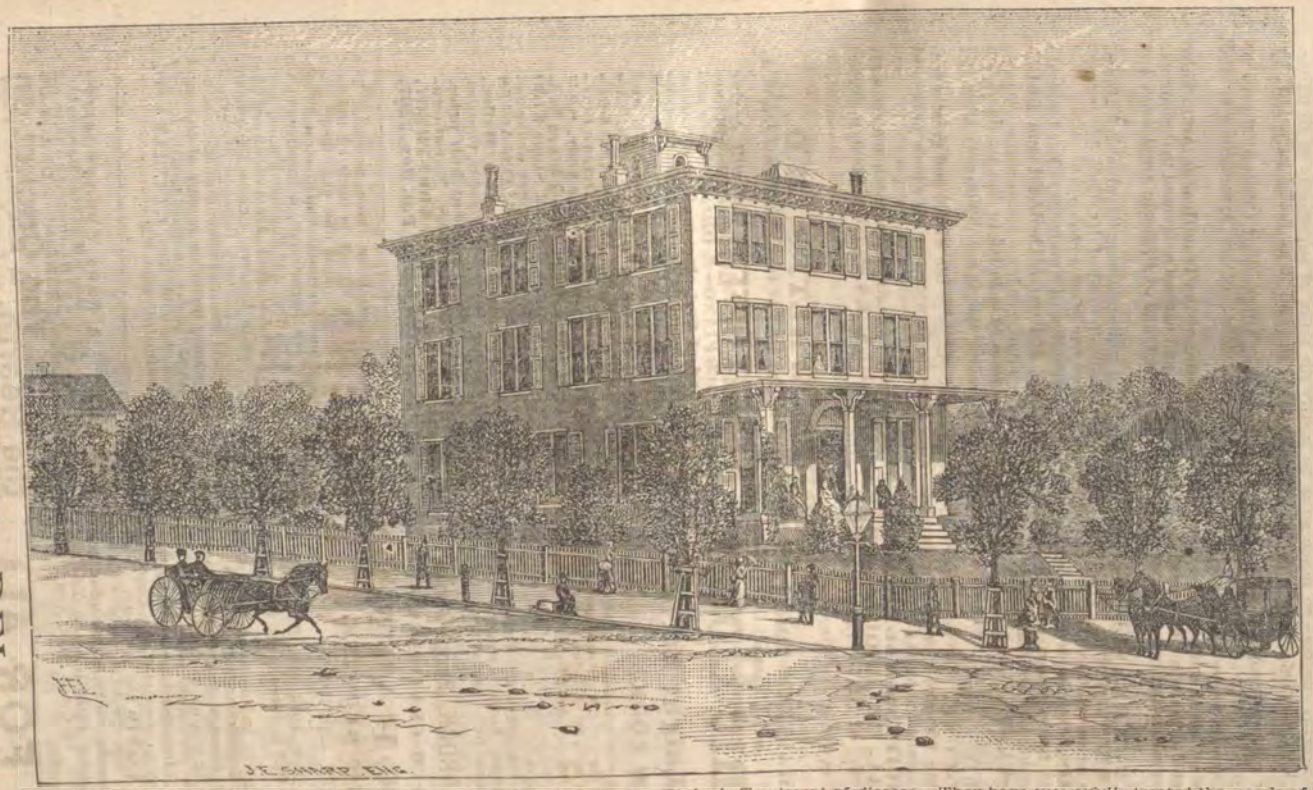
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The Institute can accommodate comfortably 250 patients this Winter. Everything about it will be in first-class order, and in this beautiful valley, whose climate is so mild, Winter so short, air so invigorating, water so pure, and scenery so delightful, the most delicate invalids, if curable, can get well. Already there are nearly 100 ladies and gentlemen here, domiciliated for the winter. It should be distinctly understood that the Sanitarium is not a Water-Cure, nor a Drug-Cure, nor a Magnetic-Cure, but an Institute where invalids are treated according to the Laws of Life and Health, and so *get well*. All persons who, being sick, would like to be well, are respectfully invited to correspond with our physician-in-chief, Dr. James C. Jackson, inclosing stamp to prepay his answer, and he will gladly give all needed information. The best of testimonials will be furnished. Respectfully,

THE PROPRIETORS.

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